



Explorations for the Tanner crab Chionoecetes bairdi off the  
coasts of Kodiak Island, the Alaska Peninsula, and Aleutian  
Islands, 1978 and 1979

By:  
William E. Donaldson  
and  
David M. Hicks

1980

## ADF&G TECHNICAL DATA REPORTS

This series of reports is designed to facilitate prompt reporting of data from studies conducted by the Alaska Department of Fish and Game, especially studies which may be of direct and immediate interest to scientists of other agencies.

The primary purpose of these reports is presentation of data. Description of programs and data collection methods is included only to the extent required for interpretation of the data. Analysis is generally limited to that necessary for clarification of data collection methods and interpretation of the basic data. No attempt is made in these reports to present analysis of the data relative to its ultimate or intended use.

Data presented in these reports is intended to be final, however, some revisions may occasionally be necessary. Minor revision will be made via errata sheets. Major revisions will be made in the form of revised reports.

Explorations for the Tanner crab *Chionoecetes bairdi*  
off the coasts of Kodiak Island, the Alaska Peninsula,  
and Aleutian Islands, 1978 and 1979<sup>1</sup>

By

William E. Donaldson

and

David M. Hicks

Alaska Department of Fish and Game  
Westward Region Headquarters  
Kodiak, Alaska

<sup>1</sup> This investigation was partially financed by the Commercial Fisheries Research and Development Act (P.L. 88-309 as amended) under Project 5-41-R.

# TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES . . . . .	i
LIST OF FIGURES . . . . .	ii
LIST OF APPENDICES . . . . .	vi
DEFINITION OF TERMS . . . . .	vii
INTRODUCTION . . . . .	1
Background . . . . .	1
Specific Objectives . . . . .	1
Prior and Present Knowledge of the Resources . . . . .	1
Study Area . . . . .	2
METHODS AND MATERIALS . . . . .	2
Survey Approach and Rationale . . . . .	2
Vessels . . . . .	4
Sampling Gear . . . . .	4
Fishing Procedures . . . . .	4
Sampling Procedures . . . . .	4
SURVEY RESULTS . . . . .	6
Introduction . . . . .	6
Data Limitations and Assumptions . . . . .	6
Kodiak . . . . .	9
Catch in Number of Crab . . . . .	18
Size Composition . . . . .	18
Exoskeletal Age . . . . .	18
Cohort Analysis . . . . .	18
Sand Point . . . . .	18
Catch in Number of Crabs . . . . .	18



# TABLE OF CONTENTS (Continued)

	<u>Page</u>
Size Composition . . . . .	55
Exoskeletal Age . . . . .	55
Cohort Analysis . . . . .	55
Dutch Harbor . . . . .	55
Catch in Number of Crab . . . . .	55
Size Composition . . . . .	55
Exoskeletal Age . . . . .	74
Cohort Analysis . . . . .	74
LITERATURE CITED . . . . .	77
APPENDICES . . . . .	78

# LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Research fishing information and related catch data . . . . .	5
2. Soak factors used to standardize individual pot soak times . . . . .	8
3. Year class [cohort] strengths by number of male Tanner crab, <i>Chionoecetes bairdi</i> , captured and percent of male catch for years 1978 - 1979, Kodiak . . . . .	35
4. Number of male Tanner crab, <i>Chionoecetes bairdi</i> , captured by cohort and exoskeletal age group 1978 - 1979, Kodiak . .	36
5. Year class [cohort] strengths by number of male Tanner crab, <i>Chionoecetes bairdi</i> , captured and percent of male catch for years 1978 - 1979, Sand Point . . . . .	56
6. Number of male Tanner crab, <i>Chionoecetes bairdi</i> , captured by cohort and exoskeletal age group 1978 - 1979, Sand Point . . . . .	57
7. Year class [cohort] strengths by number of male Tanner crab, <i>Chionoecetes bairdi</i> , captured and percent of female catch for year 1979, Dutch Harbor . . . . .	73
8. Number of male Tanner crab, <i>Chionoecetes bairdi</i> , captured by cohort and exoskeletal age group 1979, Dutch Harbor . . .	75

# LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Major crab survey areas of the Westward Region of Alaska . . .	3
2. A) Carapace width and chela width measurements taken and B) Abdomen width measurements for the Tanner crab, <i>Chionoecetes bairdi</i> . . . . .	7
3. 1978 - 1979 Kodiak ocean fishing stations . . . . .	10
4. 1978 - 1979 Kodiak bay stations (Chiniak and Ugak Bays) . . .	11
5. 1978 - 1979 Kodiak bay stations (Kiliuda Bay and Sitkalidak Island) . . . . .	12
6. 1978 - 1979 Kodiak bay stations (Alitak Bay) . . . . .	13
7. 1978 - 1979 Kodiak bay stations (Uganik Bay) . . . . .	14
8. 1978 - 1979 Kodiak bay stations (Kupreanof, Viekada, Kizhuyak, and Marmot Bays) . . . . .	15
9. 1978 - 1979 Kodiak bay stations (Malina and Paramanof Bays). .	16
10. Percentage of the total number of pots fished by depth interval, 1978 - 1979, Kodiak . . . . .	17
11. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by ocean station, 1978 Kodiak survey . . . . .	19
12. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by ocean station, 1978 Kodiak survey . . . . .	20
13. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by ocean station- 1978 Kodiak survey . . . . .	21
14. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by ocean station, 1978 Kodiak survey . . . . .	22
15. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Chiniak and Ugak Bays . . . . .	23
16. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Chiniak and Ugak Bays . . . . .	24
17. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Kiliuda Bay and Sitkalidak Island . . . . .	25
18. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Kiliuda Bay and Sitkalidak Island . . . . .	26

# LIST OF FIGURES (Continued)

Figure	Page
19. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Alitak Bay . . . . .	27
20. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Alitak Bay . . . . .	28
21. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Uganik Bay . . . . .	29
22. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Uganik Bay . . . . .	30
23. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Kupreanof, Viekada, Kizhuyak, and Marmot Bays . . . . .	31
24. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Kupreanof, Viekada, Kizhuyak, and Marmot Bays . . . . .	32
25. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Malina and Paramanof Bays . . . . .	33
26. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Kodiak survey, Malina and Paramanof Bays . . . . .	34
27. Carapace width frequency of new, old, and very oldshell male Tanner crab, <i>Chionoecetes bairdi</i> , captured in 1978 Kodiak survey . . . . .	37
28. Carapace width frequency of new, old, and very oldshell male Tanner crab, <i>Chionoecetes bairdi</i> , captured in 1979 Kodiak survey . . . . .	38
29. 1978 Sand Point fishing stations (Cold Bay - Shumagin Islands) . . . . .	39
30. 1978 Sand Point fishing stations (Unimak Island) . . . . .	40
31. 1979 Sand Point fishing stations (Cold Bay - Shumagin Islands) . . . . .	41
32. 1979 Sand Point fishing stations (Morzhovoi Bay - Ikatan Bay) . . . . .	42
33. 1979 Sand Point fishing stations (Unimak Island) . . . . .	43
34. Percentage of the total number of pots fished by depth interval, 1978 - 1979, Sand Point . . . . .	44

# LIST OF FIGURES (Continued)

<u>Figure</u>	<u>Page</u>
35. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Sand Point survey (Cold Bay - Shumagin Islands) . . . .	45
36. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Sand Point survey (Cold Bay - Shumagin Islands) . . . .	46
37. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1978 Sand Point survey (Unimak Island) . . . . .	47
38. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1978 Sand Point survey (Unimak Island) . . . . .	48
39. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Sand Point survey (Cold Bay - Shumagin Islands) . . . .	49
40. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Sand Point survey (Cold Bay - Shumagin Islands) . . . .	50
41. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Sand Point survey (Morzhovoi Bay - Ikatan Bay) . . . .	51
42. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Sand Point survey (Morzhovoi Bay - Ikatan Bay) . . . .	52
43. Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Sand Point survey (Unimak Island) . . . . .	53
44. Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Sand Point survey (Unimak Island) . . . . .	54
45. Carapace width frequency of new, old, and very oldshell male Tanner crab, <i>Chionoecetes bairdi</i> , captured in the 1978 Sand Point survey . . . . .	58
46. Carapace width frequency of new, old, and very oldshell male Tanner crab, <i>Chionoecetes bairdi</i> , captured on the 1979 Sand Point survey . . . . .	59
47. 1979 Dutch Harbor fishing stations (Unalaska Island East). .	60
48. 1979 Dutch Harbor fishing stations (Unalaska Bay) . . . . .	61
49. 1979 Dutch Harbor fishing stations (Beaver Inlet) . . . . .	62
50. 1979 Dutch Harbor fishing stations (Akutan Bay) . . . . .	63
51. Percentage of the total number of pots fished by depth interval, 1979 Dutch Harbor . . . . .	64

# LIST OF FIGURES (Continued)

<u>Figure</u>		<u>Page</u>
52.	Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Dutch Harbor survey (Unalaska Island East) . . . . .	65
53.	Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Dutch Harbor survey (Unalaska Island East) . . . . .	66
54.	Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Dutch Harbor survey (Unalaska Bay) . . . . .	67
55.	Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Dutch Harbor survey (Unalaska Bay) . . . . .	68
56.	Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Dutch Harbor survey (Beaver Inlet) . . . . .	69
57.	Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Dutch Harbor survey (Beaver Inlet) . . . . .	70
58.	Avg. no. sublegal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Dutch Harbor survey (Akutan Bay) . . . . .	71
59.	Avg. no. legal ♂♂ <i>C. bairdi</i> captured per pot by station, 1979 Dutch Harbor survey (Akutan Bay) . . . . .	72
60.	Carapace width frequency of new, old, and very oldshell male Tanner crab, <i>Chionoecetes bairdi</i> , captured on the 1979 Dutch Harbor survey . . . . .	76

## LIST OF APPENDICES

<u>Table</u>	<u>Page</u>
1. Bay and ocean station collection and catch data for male Tanner crab ( <i>C. bairdi</i> ), 1978-1979 Population Index Studies, Kodiak . . . . .	79
2. Bay and ocean station collection and catch data for male Tanner crab ( <i>C. bairdi</i> ), 1978-1979 Population Index Studies, Sand Point . . . . .	113
3. Bay and ocean station collection and catch data for male Tanner crab ( <i>C. bairdi</i> ), 1979 Population Index Study, Dutch Harbor . . . . .	125

## DEFINITION OF TERMS

Newshell - Hard exoskeletal animals. The dorsal side of the carapace is brownish-red. No apparent or limited scratching on ventral side. Epifauna is absent or limited. Dactyli, pterygostomial and branchial spines sharp.

Oldshell - An apparent skipmolt. Carapace is hard and brownish. The thoracic sternum and ventral side of the legs have obtained numerous scratches and abrasions. Dactyli, pterygostomial and branchial spines are worn. Epifauna may be present.

Very oldshell - An obvious skipmolt. Carapace is hard, dark brown to blackish. Thoracic sternum and ventral side of legs with multiple scratches and abrasions. Underside of legs may be dark yellow-brown. Dactyli, pterygostomial and branchial spines heavily worn. Epifauna most always present, e.g., large barnacles.

Carapace width - The straight line distance across the widest part of the carapace, excluding spines, at right angles to a line drawn from the rostrum to the medial posterior margin of the carapace.

Abdomen width - The straight line distance taken across the widest part of the fifth abdominal segment.

Chela width - The widest lateral measurement of the right chela.

Ovigerous - Bearing eggs.

4 - Male Tanner crab  $\leq 69$  mm in carapace width and 4 or more years from legal size.

3 - Male Tanner crab 70 - 91 mm in carapace width and 3 years from legal size.

2 - Male Tanner crab 92 - 114 mm in carapace width and 2 years from legal size.

1 - Male Tanner crab 115 - 139 mm in carapace width and 1 year from legal size.

R (Recruit) - Newshell male Tanner crab 140 - 164 mm in carapace width recruited to legal size in year of capture.

PR1 (Post Recruit 1) - Oldshell and very oldshell male Tanner crab 140 - 165 mm carapace width. Have been legal size at least 1 year.

PR2 (Post Recruit 2) - Male Tanner crab  $\geq 165$  mm in carapace width.



## INTRODUCTION

### Background

The Alaska Department of Fish and Game's (ADF&G) Federal Aid Tanner crab (*Chionoecetes bairdi*) research project was initiated in 1973. The primary objective was to gather knowledge upon which to base interim harvest levels for the commercial fishery. Assessment of stock composition parameters is the desired basic method of management, hopefully resulting in a fishery based on various age-classes of legal crab.

Since 1971, the ADF&G has been developing a king crab, (*Paralithodes camtschatica*) stock assessment technique utilizing pot fishing methods while simultaneously conducting large scale sampling. Since numerous Tanner crabs were captured incidentally to king crabs during stock assessment surveys, it was proposed that a joint king-Tanner stock assessment survey be conducted annually and evaluated for its effectiveness in assessing populations of king and Tanner crab.

This report extends the documentation of the earlier period from 1973 through 1977 (Donaldson and Hicks 1980), documents how, when, and where pot surveys were conducted and summarizes general abundance and distribution data for male Tanner crab captured from 1978 through 1979. It is intended as a source document for retrieval of research catch data and related information. Some preliminary conclusions are made concerning the methodology for assessing Tanner crab stocks.

### Specific Objectives

Since 1973, specific objectives have been to: (1) Establish a method of indexing abundance of Tanner crab populations which will enable the development of appropriate management strategies to insure a harvestable surplus on a sustained basis, (2) to index relative and actual abundance of as many age classes of male and female Tanner crabs as possible with particular reference to major fishing districts, and (3) to determine migration patterns and distribution of the various major stocks of Tanner crab.

### Prior and Present Knowledge of the Resource

The first domestic research program on Tanner crab in Alaskan waters was conducted simultaneously with two National Marine Fisheries Service (NMFS) king crab surveys in the Southeastern Bering Sea in 1968. Three additional surveys were completed in 1969. A first approximation of distribution and abundance was obtained for the Southeastern Bering Sea (Karinen 1969).

Since 1969, annual crab stock assessment surveys have been conducted to monitor the populations in the Southeastern Bering Sea. In 1975 and 1976, NMFS conducted Outer Continental Shelf related surveys as far north as the Southeastern Chukchi Sea. Very little usable data was collected on Tanner crab south of the Alaska Peninsula prior to 1973. McMullen and Yoshihara (1970) compiled catch per unit effort, width frequency, average weight, and catch area information for Tanner crab caught incidental to the Shumagin Island 1969-1970 king crab

fishery. Annual ADF&G surveys since 1973 plus the development of the commercial fishery have provided more data on distribution and relative abundance.

The domestic fishery for the Alaskan Tanner crab has continued to expand since the first harvest of 3.1 MT (6,800 lbs) in 1961. Eighteen years of increased processing and fishing technology combined with agency research and management has produced a record of 52,818.4 MT (116.4 million pounds) valued at 52.4 million dollars in 1979. Total United States landings of all species of crab was 203,784.9 MT (499.1 million lbs) in 1978 of which Alaskan Tanner crab comprised 29%. Additionally, there is a very large resource of *C. opilio* only recently exploited by the domestic fishing fleet. The maximum sustainable yield (MSY) of *C. opilio* was estimated at 199,582.7 MT (440 million lbs) in 1975, nearly 500% greater than *C. bairdi* MSY.

The foreign fishery for Alaskan Tanner crab in the Fisheries Conservation Zone<sup>1</sup> totaled 14953.5 MT (32.9 million lbs) in 1979 and was comprised of about 8% *C. bairdi* and the remainder *C. opilio*.

As evidenced by the commercial catch, the size of the resource is very large and emphasizes the need for developing accurate assessment methodology.

### Study Area

The study area includes the Continental Shelf (0 - 391 m) south of the Alaska Peninsula and Aleutian Islands of the Westward Region of Alaska, which is defined as the latitude of Cape Douglas, west of 151° W. long., east of 172° E. long., and seaward to 366 m depth contour, and all Bering Sea waters east of 172° E. long. Since the surveys have tended to concentrate around areas of major commercial importance, the data will be presented by survey area which consists of the Kodiak, Sand Point, and Dutch Harbor geographical areas (Figure 1). Annual crab stock assessment surveys in the Bering Sea are conducted and reported by the National Marine Fisheries Service.

## METHODS AND MATERIALS

### Survey Approach and Rationale

A survey method for king crab employing pots was in use in 1973. Because of the extensive area to be surveyed and the cost of chartering vessels, this methodology was adopted for Tanner crab and the sampling conducted simultaneously.

Station distribution was determined from a stratified-random grid pattern. The survey areas were first divided into strata based on prior knowledge of the king crab resource and then high density areas received greater sampling

---

<sup>1</sup> 4.8 - 320 km off the coastline.

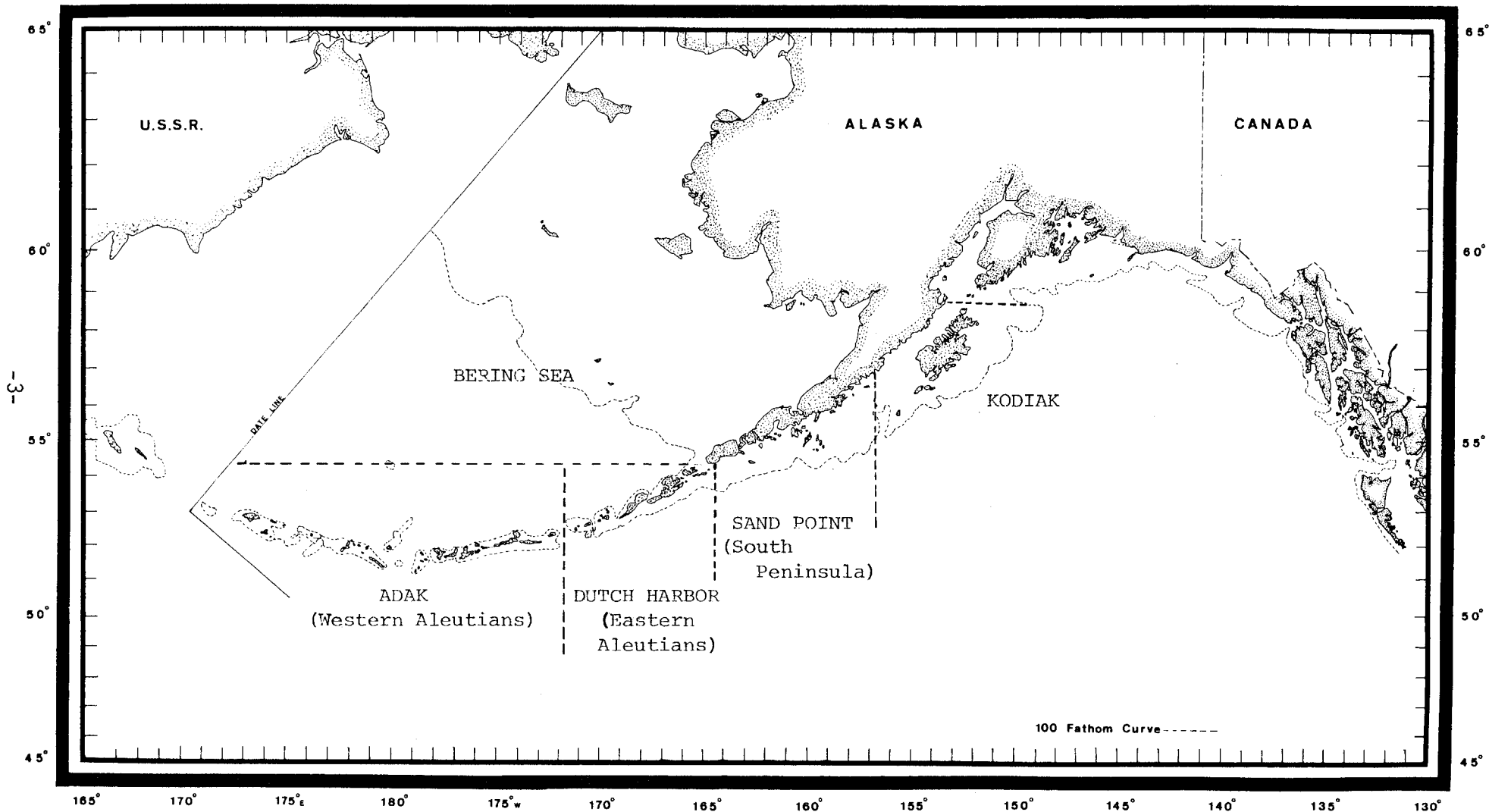


Figure 1. Major Crab survey areas of the Westward Region of Alaska.

effort. Research stations within selected strata were randomly selected. The experimental design called for offshore stations to consist of a string of 10 to 13 pots spaced 0.4 km (.25 mi) apart in an east-west direction. Individual stations were spaced 11 km (7 mi) east-west and 4.8 km (3 mi) north-south. Three such stations were to be fished daily. Bay stations consisted of a string of three to four pots spaced 0.4 km (.25 mi) apart in an east-west direction. Spacing between bay stations was 1.6 km (1 mi) east to west and 3.2 km (2 mi) north to south. Ten such stations were to be fished per day. Repetitive sampling of the same stations was to be attempted between years, however, this was not always accomplished. The Kodiak research station grid has stayed essentially the same since it was redrawn in 1976.

Distance between bay stations at Sand Point and Dutch Harbor are inconsistent. The 1978 and 1979 Sand Point bay stations were spaced 1.6 km (1 mi) east to west and 3.2 km (2 mi) north to south. The 1978 Dutch Harbor survey was not conducted.

In 1979 the Dutch Harbor bay stations were spaced 1.6 km (1 mi) east to west and 3.2 km (2 mi) north to south. Any variation in this grid whether ocean or bay station was the result of prospect fishing or random fishing that may have occurred in a number of different directions and spacings.

Loran and/or radar bearings were not recorded during fishing until recently and there is no way to verify the accuracy of station location from year to year.

Approximately 30 consecutive days research fishing in each geographic area was attempted per year.

### Vessels

Surveys were conducted utilizing chartered fishing vessels and the ADF&G's research vessel RESOLUTION (Table 1).

### Sampling Gear

Sampling gear consisted of 2.1 x 2.1 m (7 ft x 7 ft) crab pots covered with 89 mm (3.5 in) webbing. Frozen herring, *Clupea harengus*, placed in 2-0.95 l (1 qt) perforated containers was used to bait each pot.

### Fishing Procedures

Baited pots were to be set at designated locations and allowed to fish for a 24-hour period. Individual pot identification, environmental conditions, depth, and elapsed fishing time were recorded for each pot. Each fishing day pots were retrieved, rebaited, and set at new stations until the survey area had been completed. As many as four vessels fished simultaneously throughout the Westward area.

### Sampling Procedures

Crab caught in each pot were separated by species, sex, and exoskeletal age. Sub-sampling was used in instances where the catch was large. Tanner crab

Table 1. Research Fishing Information and Related Catch Data

Date and Location	Vessel	Keel length (ft.)	Scientific Crew Leader	No. of ocean stations fished	Avg. No. Pots per ocean station by vessel	Avg. No. pots per all ocean stations	No. of bay stations fished	Avg. No. pots per bay sta. by vessel	Avg. No. pots per all bay stations	Total pot lifts	Depth Range (fms)	No. of ♂ Tanner crab <i>C. bairdi</i> captured		No of ♀ Tanner crab <i>C. bairdi</i> captured (actual)	
												Actual	Adjusted	Juvenile	Adult
Kodiak: 1978 (6/26-7/25)	Resolution	81	D.Konigsberg	75	11.93	11.93	-0-	-0-	-0-	895	12-130	7,022	8,194	2	507
:1979 (6/19-9/2)	Resolution	81	R.Kaiser D.Konigsberg	62	7.56	9.01	59	2.96	2.99	1,709	8-158	10,282	13,193	42	1,764
	Nunivak	82.3	I.Warner W.Donaldson	82 144	9.97		85 144	3.00							
Sand Point: 1978 (8/8-8/22)	Sea Mac	65.5	M.Eaton	25	9.84	9.84	37	2.94	2.94	355	10-122	4,016	5,195	1	547
:1979 (7/19-8/25)	Pandalus	68	J.Hilsinger	21	7.33	7.33	60	2.93	2.93	330	9-94	2,295	2,514	8	449
Dutch Harbor: 1979 7/2-7/25)	Alyeska	110	G.Powell	47	10.78	10.78	68	2.95	2.95	721	9-205	1,262	1,779	4	195

carapace measurements were taken to the nearest millimeter using vernier calipers and recorded (Figures 2A and B). Exoskeletal age, fecundity, and egg condition were recorded. Commercial size Tanner crab were tagged and released and all crabs were released immediately after data collection and tagging.

Catch figures for individual pots were subsequently adjusted to reflect a standard 24-hour soak period (Table 2). The soak factors represent an approximation of a function derived by Rothschild et al. (1970) from Kodiak king crab logbook data.

## SURVEY RESULTS

### Introduction

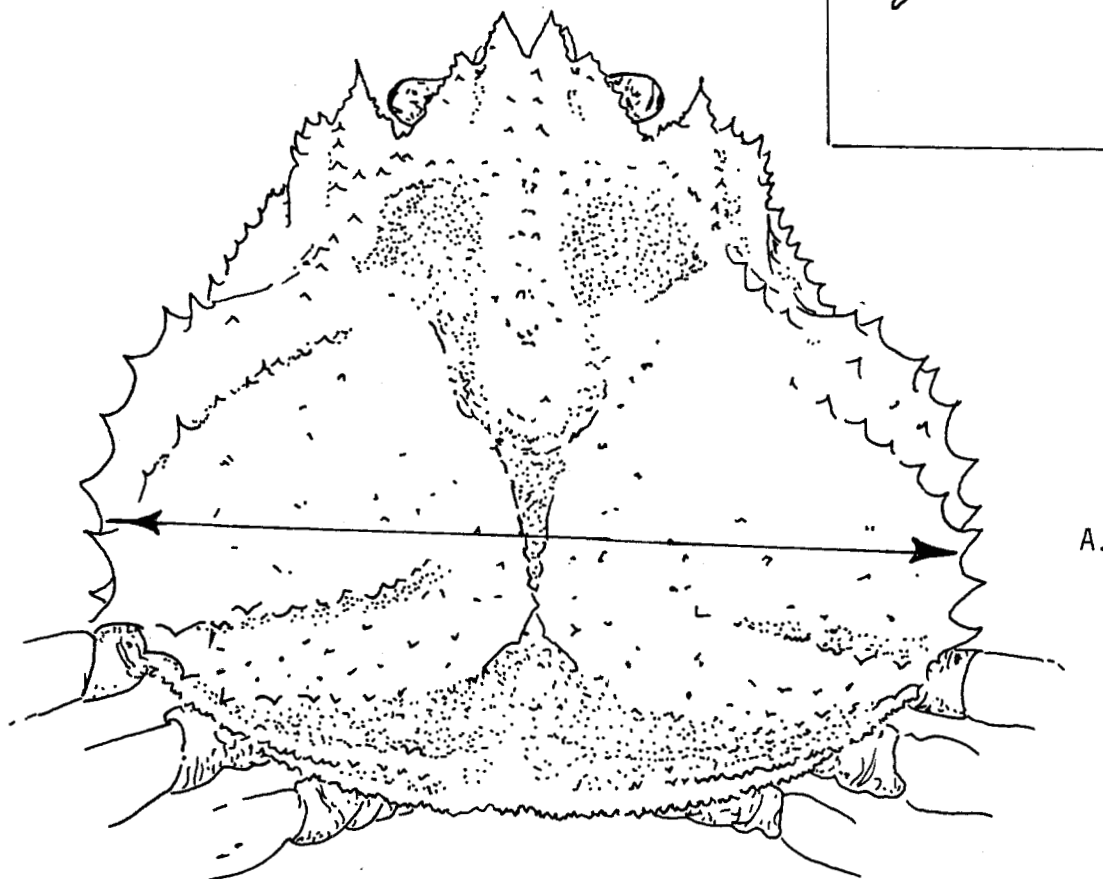
Survey results are based on adjusted (24-hour) fishing periods unless otherwise specified and are presented by geographic area in a series of tables and charts as follows:

- 1) Nautical charts depicting research stations and average catch per pot by station of legal size  $\geq 140$  mm carapace width and sublegal size  $< 140$  mm carapace width male Tanner crab. Because of the changing nature of station locations and numbering systems between years and the size of the geographic areas surveyed, it was necessary to present annual survey results on separate charts, and in some years, several charts are necessary to show station location and survey results. Kodiak area bay station results are presented on six individual bay charts for 1979; bay stations were not fished in 1978.
- 2) Table presenting year class strengths for male Tanner crab by survey year.
- 3) Table presenting the number of male Tanner crab captured by exoskeletal age by survey year.
- 4) Figure presenting width frequency histograms by exoskeletal age for male Tanner crab by survey year.
- 5) Figure depicting research fishing effort by depth strata by survey year.
- 6) Tables presenting ocean and bay station catch data for male Tanner crab by survey year.

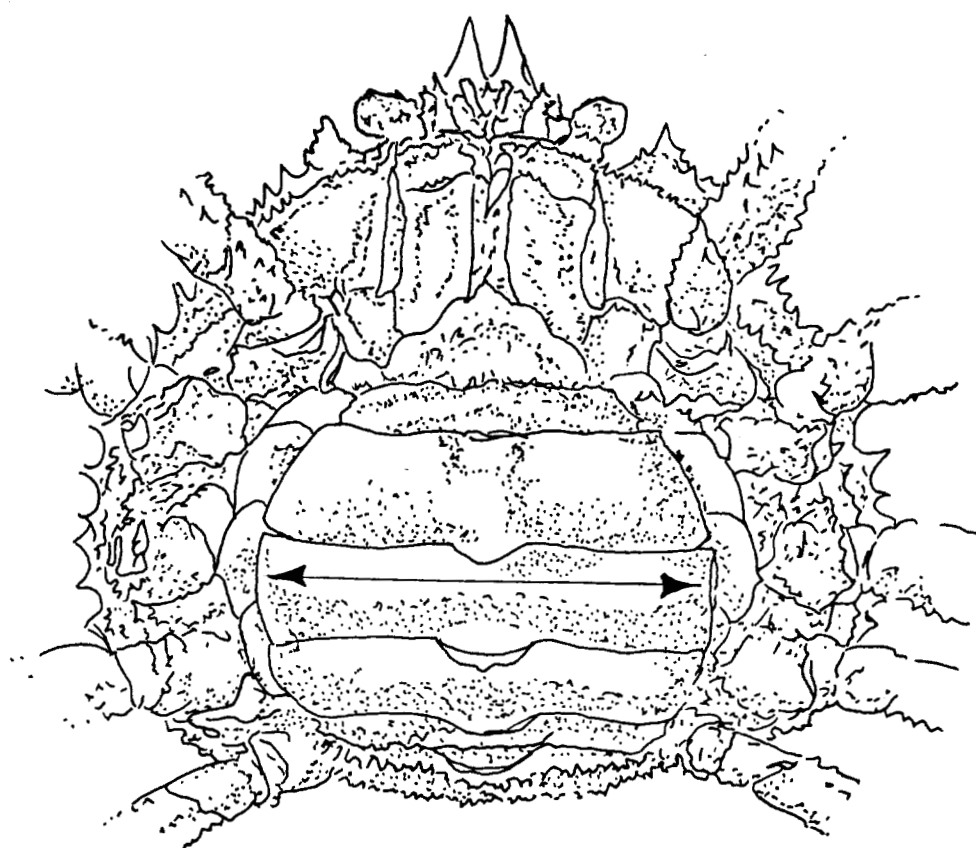
### Data Limitations and Assumptions

Limitations of the data which should be considered when analyzing the results of any one survey or comparing yearly surveys are:

- 1) Pots are selective for certain size crabs and the catch may not



A.



B.

Figure 2. A) Carapace width and chela width measurement taken and  
B) Abdomen width measurement for the Tanner crab, *Chionoecetes bairdi*.

Table 2. Soak factors used to standardize individual pot soak times<sup>1</sup>.

<u>Days pots soaked</u>	<u>Soak factor</u>
0 -----	0
1 -----	1.00
2 -----	1.50
3 -----	2.00
4 -----	2.33
5 -----	2.67
6 -----	3.00
7 -----	3.25
8 -----	3.50
9 -----	3.75
≥ 10 -----	4.00

<sup>1</sup> A 2-day soak is equivalent to 1.5, 1-day soaks. The catch from a 1.5 day soak is divided by a soak factor of 1.25.



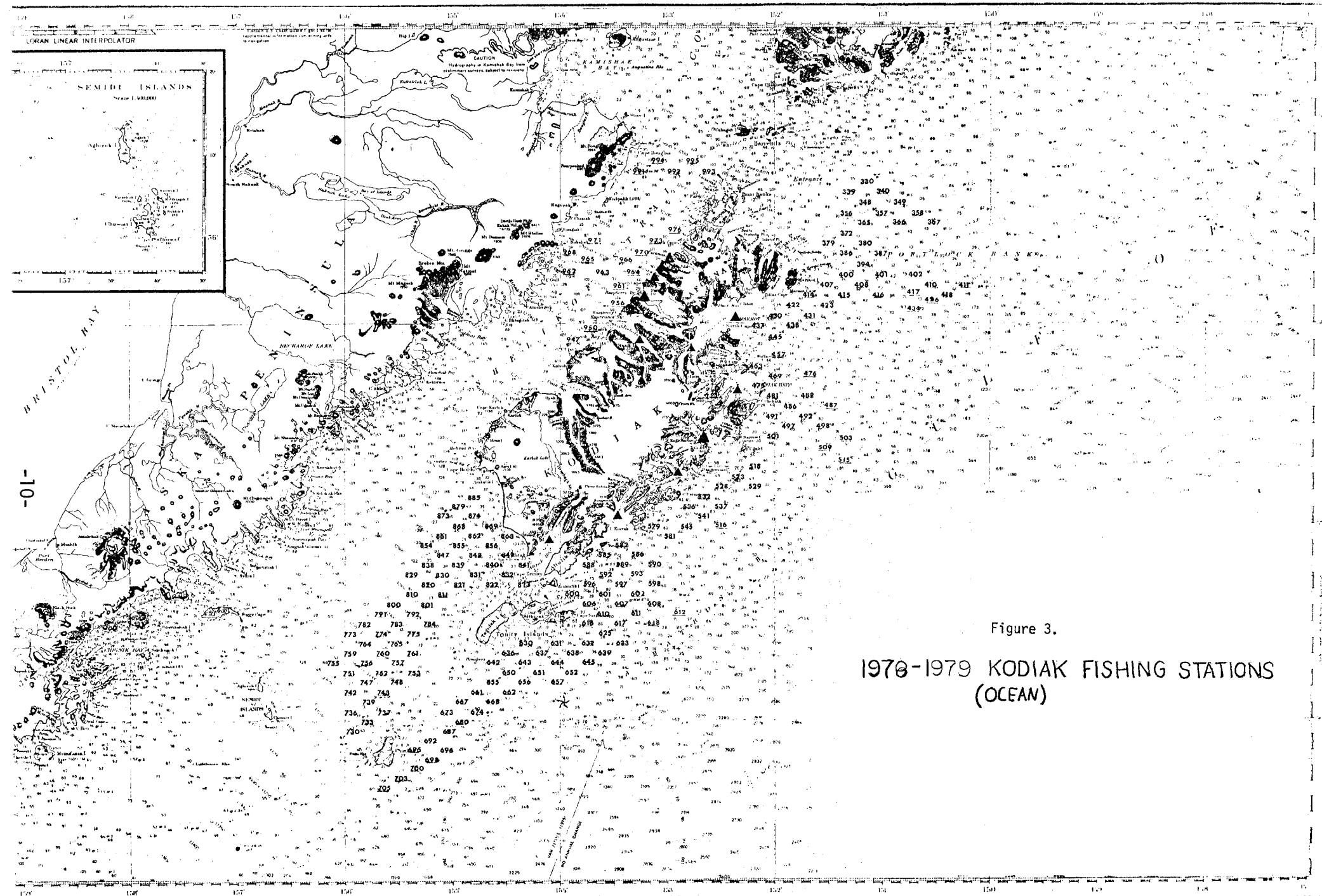
reflect the actual size composition of crab inhabiting the area.

- 2) Pot fishing is dependent on the crabs' attraction to the bait which may vary with size of the crab and the ability of one size competing with another to enter the pot. Attraction to bait is probably also related to water current direction in relation to crab location.
- 3) Soak or fishing periods for individual pots differ, thereby necessitating the use of a function to standardize the number of crab caught to a 24-hour period. This, at best, is only an approximation of what would be caught if each pot fished a standard 24 hours and is based on king crab logbook data.
- 4) Crabs can escapement from pots.
- 5) Determining the fishing power of a pot(s) or fraction of the population captured per unit time and area is a complex and difficult task for which current methodologies have produced variable results.
- 6) Fishing efficiency or the ability to fish the same locations changes with a change in vessels and skippers. Vessels and skippers have changed regularly from 1 year to the next in any one survey area.
- 7) Actual station patterns and spatial distributions between stations have varied, thereby increasing or decreasing effort in a defined area.
- 8) Time of fishing individual areas from year to year is not consistent. Since crabs are migratory and survey areas do not necessarily include all of the animal's range, there is a possibility of underestimating the population.
- 9) Systematic sampling was designed around defined king crab schools and does not necessarily cover major Tanner crab production areas.
- 10) Effort in terms of pots fished per depth intervals varies.

Tanner crab behavioral traits are such that crabs one or more years away from attaining commercial size appear not to be captured by successive surveys in a manner reflecting predictable trends in year class or cohort strength. Therefore, direct comparison of results from year to year is difficult at best. Abundance estimates should be made in terms of relative numbers between survey years.

#### Kodiak

Surveys were completed in 1978 and 1979. Research station locations are depicted on Figures 3 through 9. Seventy-five ocean and no bay stations were fished in 1978 while 144 ocean and 144 bay stations were fished in 1979. One and two vessels were utilized in 1978 and 1979, respectively. Depth range of fishing for both years combined ranged from 15 - 289 meters (8 - 148 fm). Research effort in terms of pots fished per depth zone fluctuated between years (Figure 10).



SOUNDINGS IN FATHOMS

For LORAN-A coverage see reverse side

Published at Washington, D.C.  
U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

013  
5532  
STED

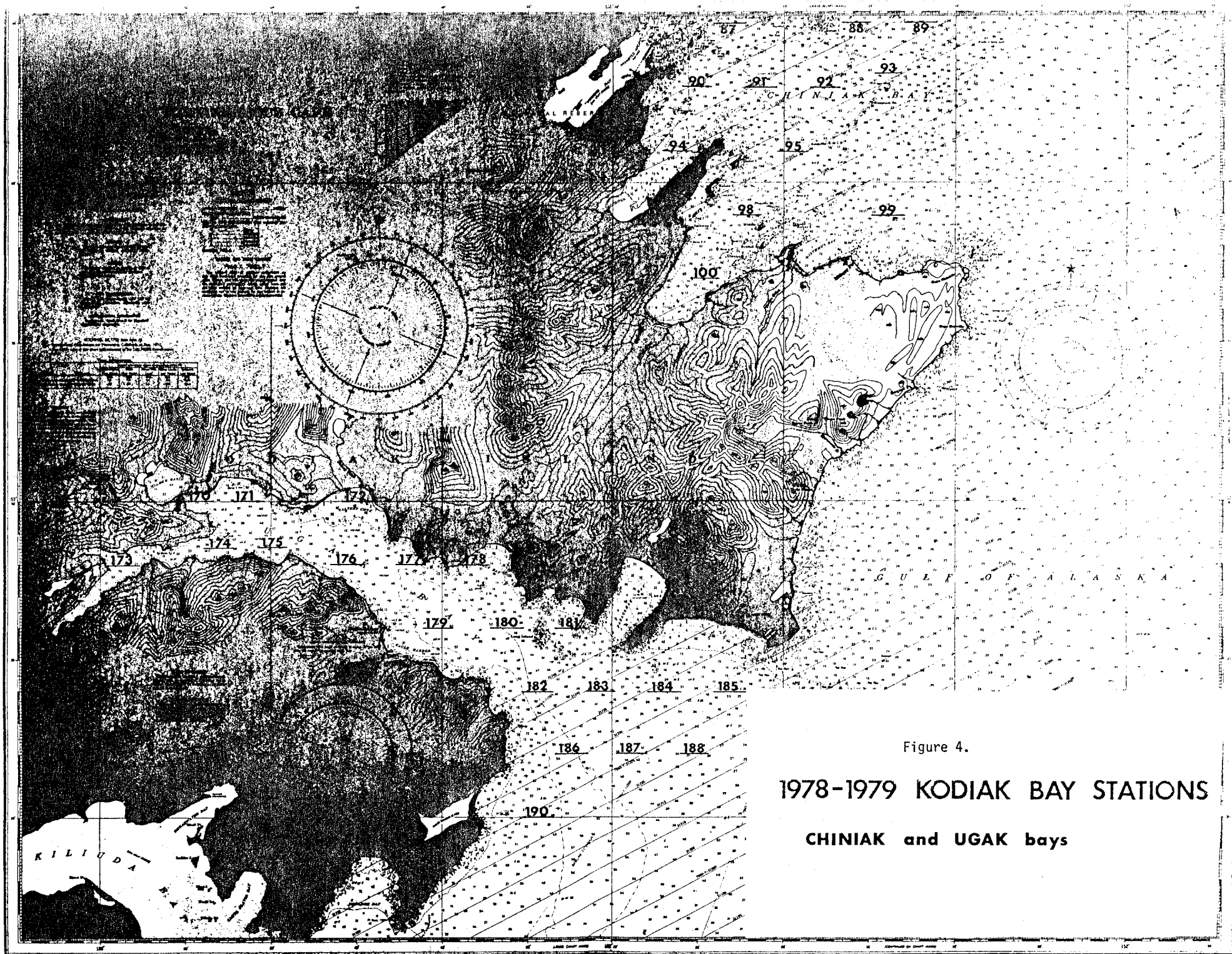
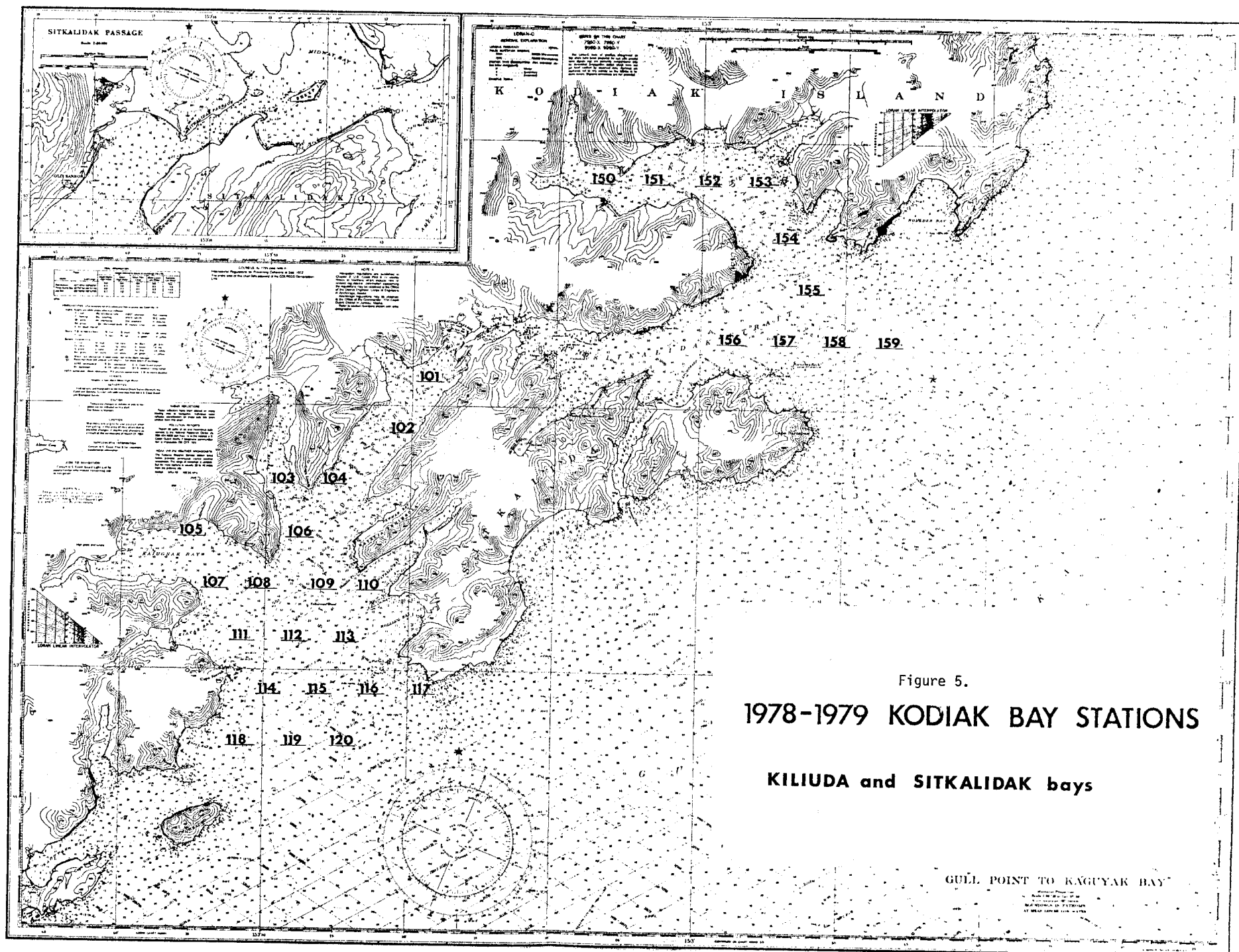
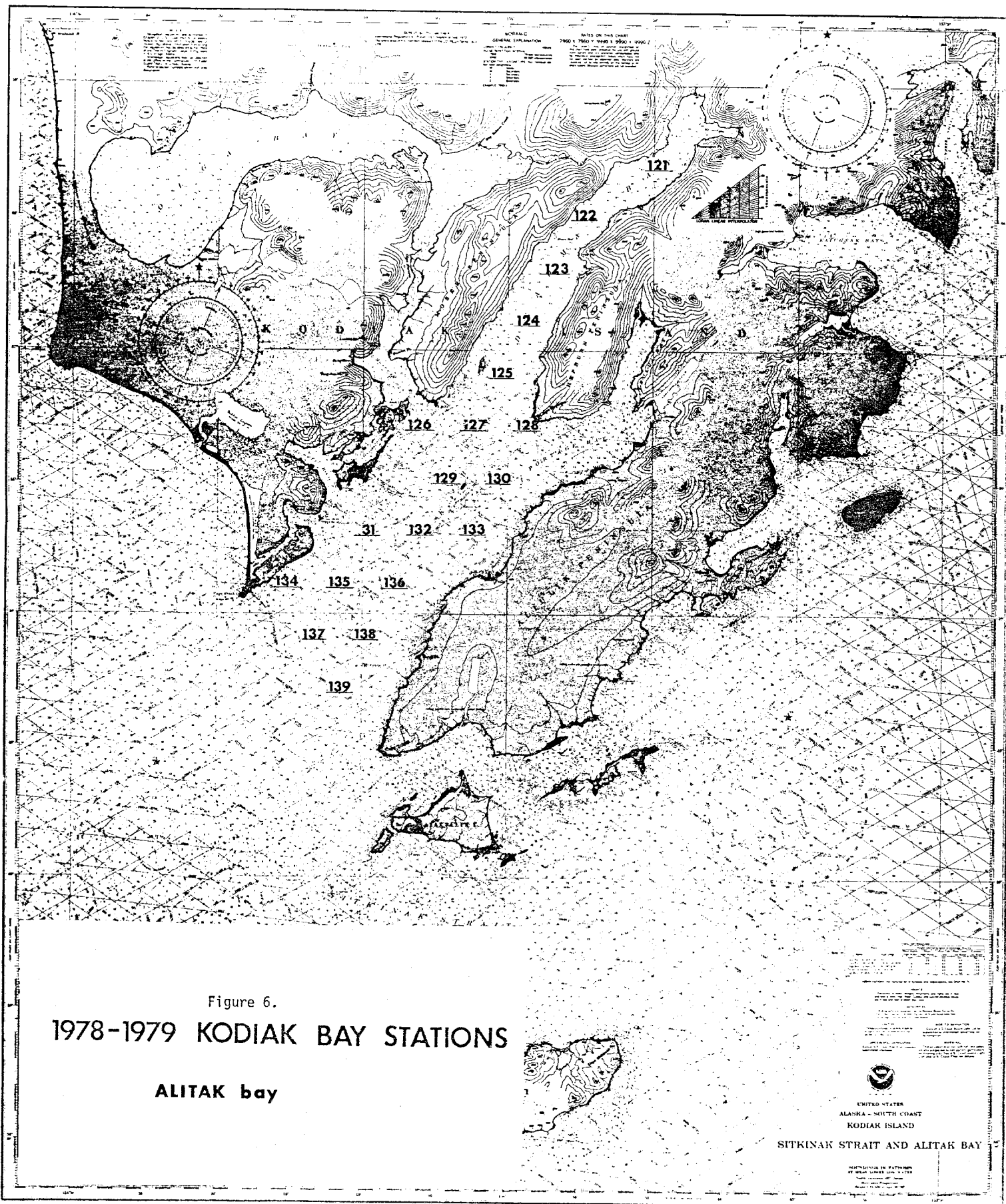


Figure 4.  
1978-1979 KODIAK BAY STATIONS  
CHINIAK and UGAK bays









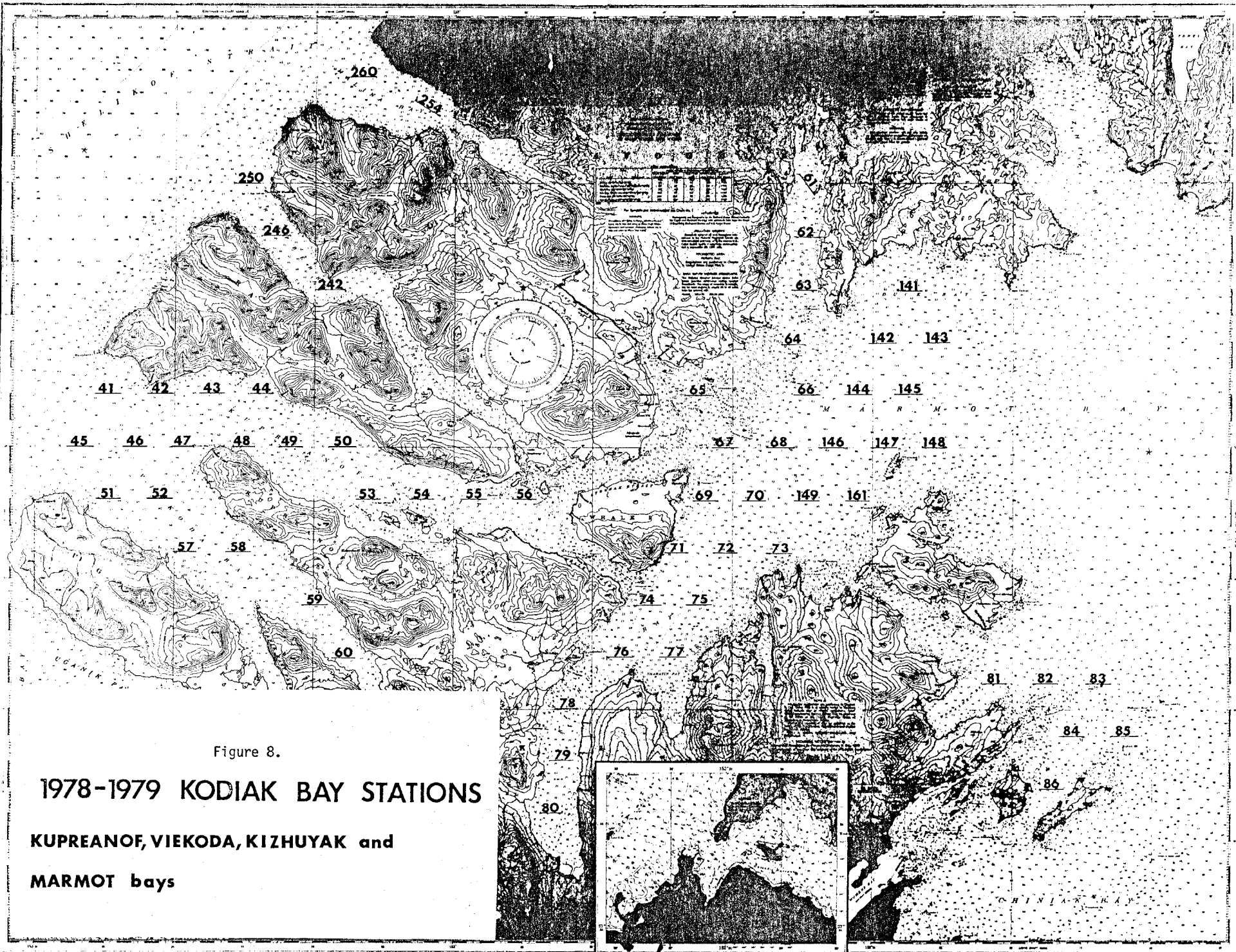


Figure 8.

**1978-1979 KODIAK BAY STATIONS**  
**KUPREANOF, VIEKODA, KIZHUYAK and**  
**MARMOT bays**

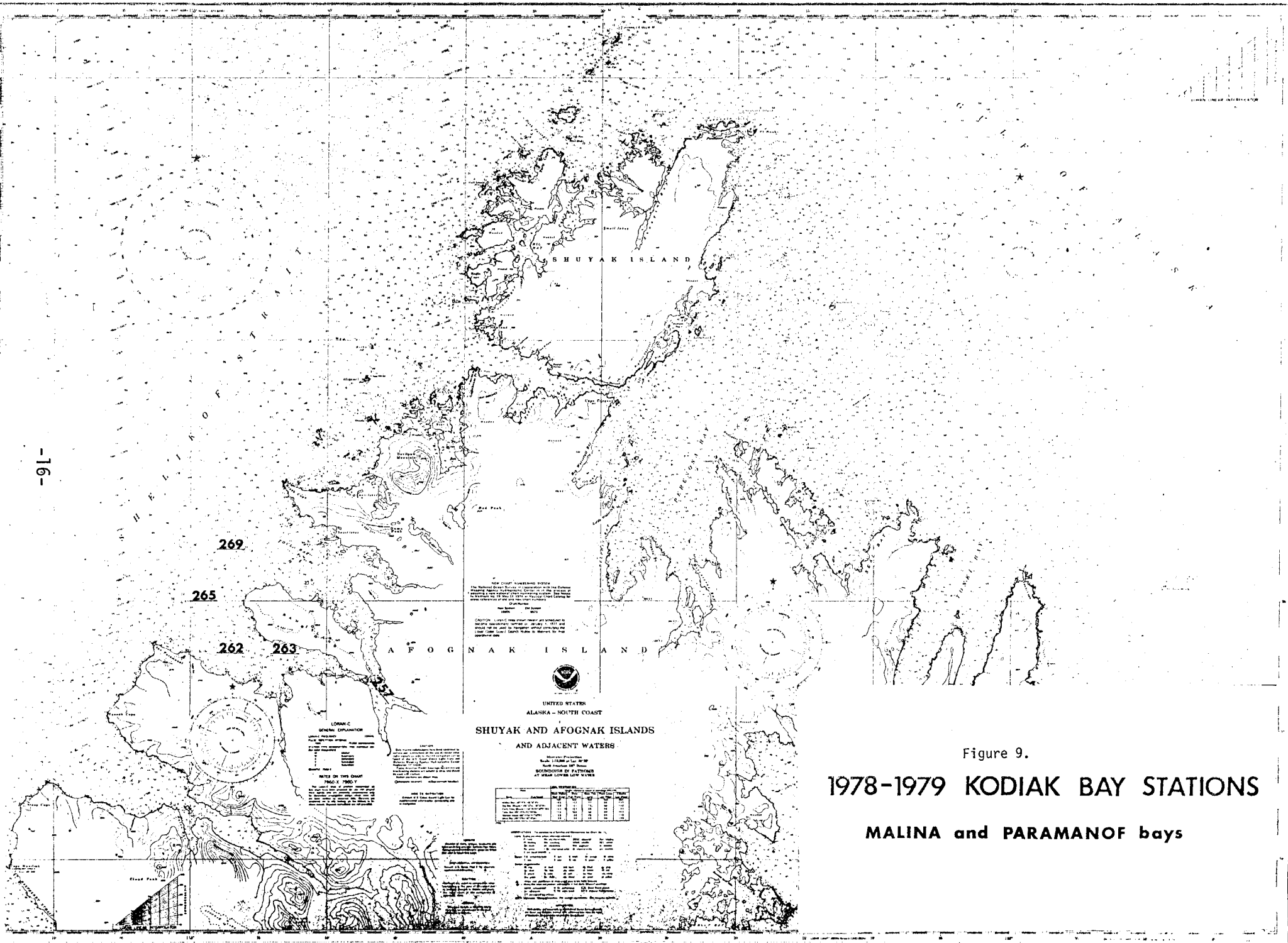


Figure 9.  
1978-1979 KODIAK BAY STATIONS  
MALINA and PARAMANOF bays



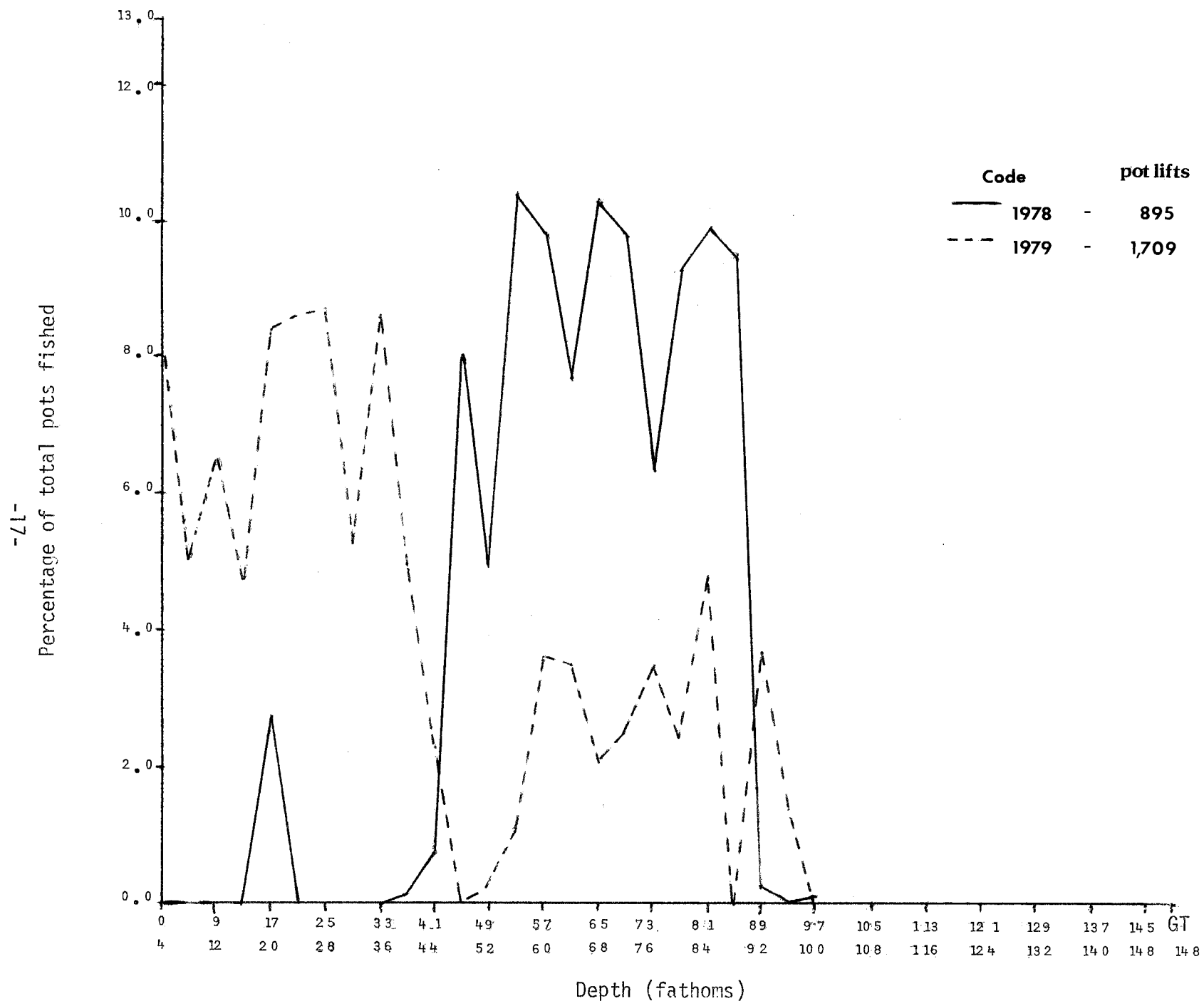


Figure 10. Percentage of the total number of pots fished by depth interval 1978-1979 Kodiak.

#### Catch in Number of Crab:

Distribution patterns and catch of legal and sublegal crab are presented on Figures 11 to 26. Total males captured was 8,194 in 1978 and 13,193 in 1979. The number of females captured was much lower than the male figure for both years with a high of 1,806 in 1979 and 509 in 1978 (Table 1). Appendix Table 1 presents the average catch per pot of male crabs by station by year.

#### Size Composition:

The size of male Tanner crab captured averaged 144 mm in both 1978 and 1979 (Table 3). The most frequently captured size groups were crabs  $\geq 115$  mm. This size group comprised nearly all of the catch in 1978 and 1979.

#### Exoskeletal Age:

Newshell crabs were the most abundant exoskeletal age group caught in 1978 with 48%, but comprised only 38.5% of the catch in 1979 (Table 4). Old-shell crabs comprised 47.5% and 59.4% of the catch in 1978 and 1979, respectively. Very oldshell crabs were the least abundant in both years comprising 4.5 and 2.1% in 1978 and 1979, respectively. The number of newshell, oldshell, and very oldshell crab by carapace width captured each survey are depicted on Figures 27 and 28.

#### Cohort Analysis:

Year class strengths by number and percent of male Tanner crab captured are presented in Table 3. An analysis of this data shows no pronounced trends in year class strengths and appears to vary somewhat unpredictably when attempting to follow various size classes (cohorts) from age of entry in the samples through subsequent attainment of legal size and beyond.

#### Sand Point

Surveys were completed in 1978 and 1979. Station locations are depicted on Figures 29 to 33. Twenty-five ocean and 37 bay stations were fished in 1978 while 21 ocean and 60 bay stations were fished in 1979. Pot lifts totaled 355 in 1978 and 330 in 1979 (Table 1). Depth range of fishing for the 2 years combined was 16 to 223 meters (9-122 fm) and varied in terms of pots fished by depth zone (Figure 34).

#### Catch in Number of Crab:

Distribution patterns and catch figures for legal and sublegal crabs are presented on Figures 35 to 44. Total males captured was 5,195 in 1978 and 2,514 in 1979. The number of females captured was lower in both years than the male figure with 548 captured in 1978 and 457 in 1979 (Table 1). Appendix Table 2 presents the average catch per pot of males by station by year with associated relative index values.

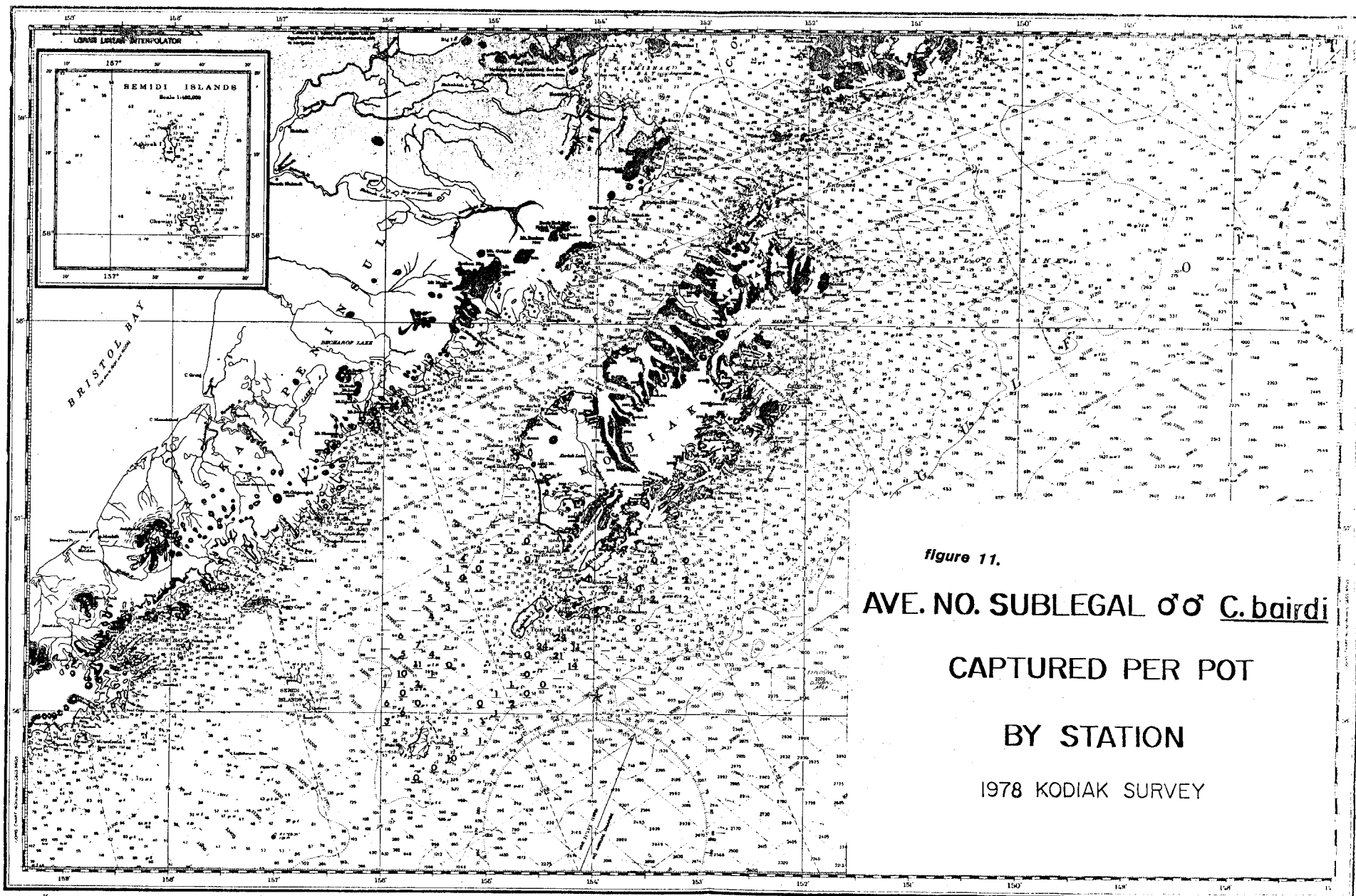


figure 11.

AVE. NO. SUBLEGAL σσ C. bairdi

CAPTURED PER POT

BY STATION

1978 KODIAK SURVEY

16013  
(Formerly C&GS 8502)  
LORAN-C OVERPRINTED

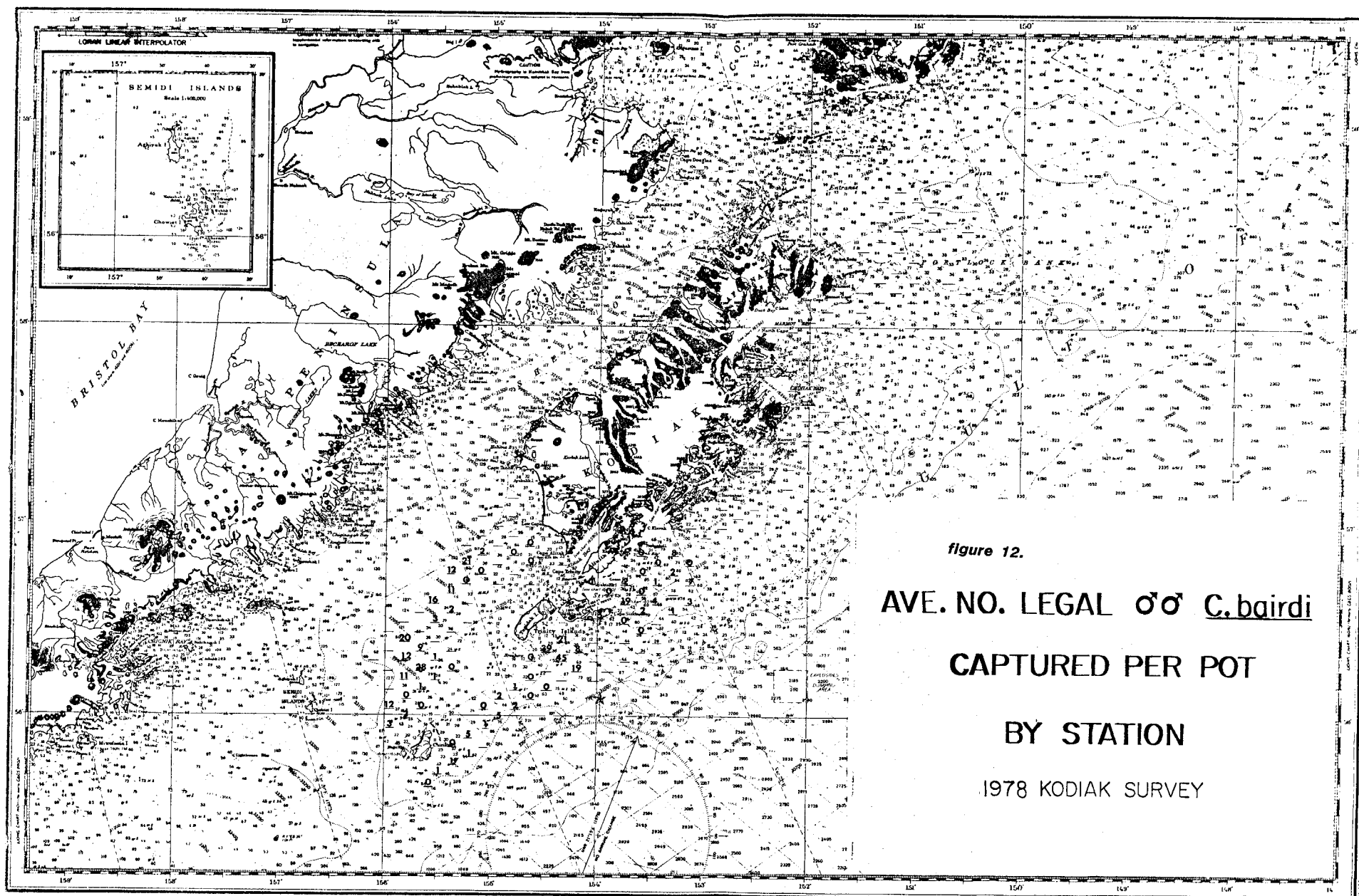
CAUTION  
This chart has been corrected from the Marine Information Service by the National Oceanic and Atmospheric Administration. It is not to be used for navigation purposes.

SOUNDINGS IN FATHOMS

For LORAN-A coverage see reverse side

Published at Washington, D. C.  
U. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

013  
8502  
JTD



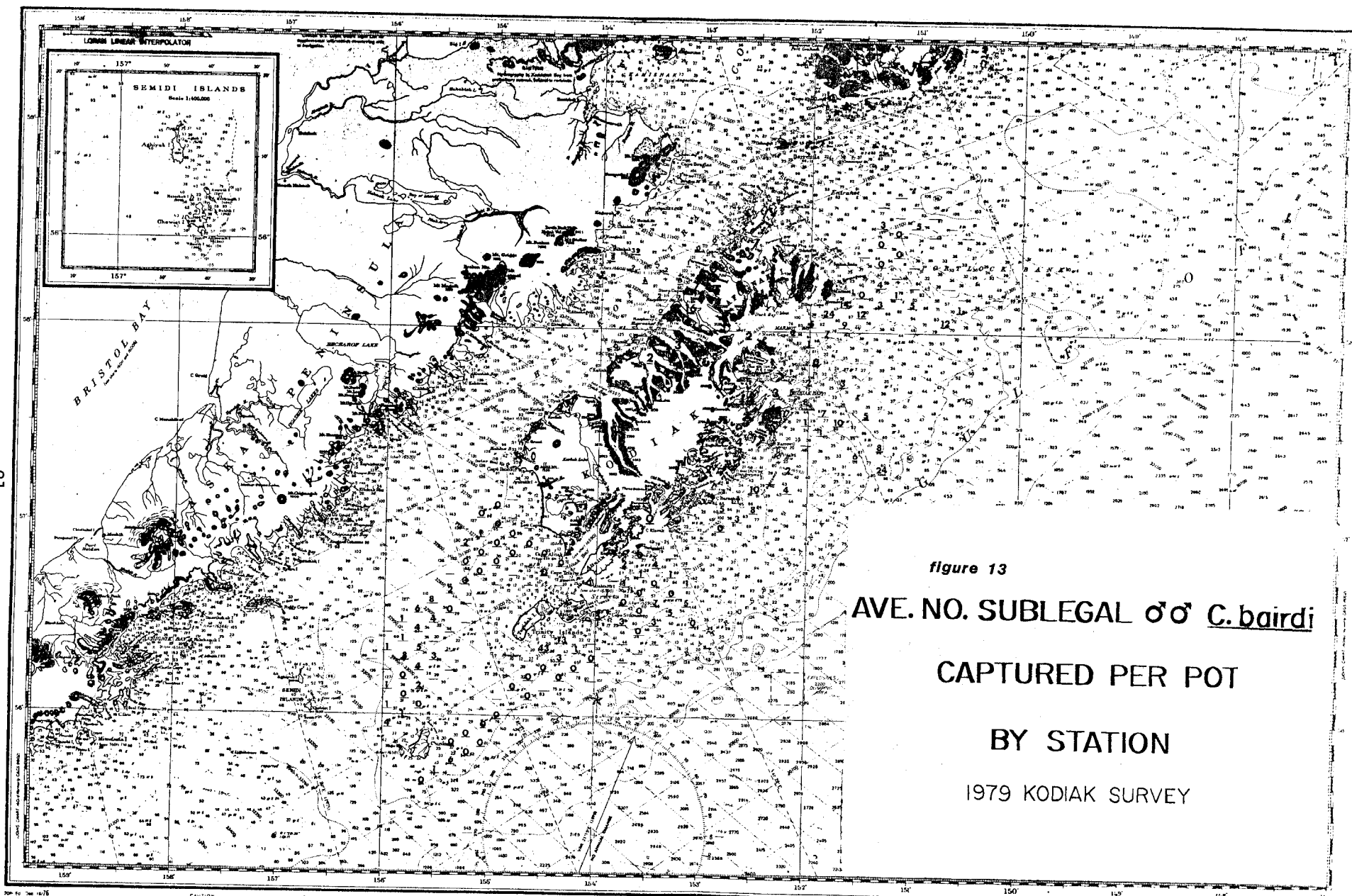
16013  
 (formerly CGCS 8502)  
 LORAN-C OVERPRINTED

SOUNDINGS IN FATHOMS

For LORAN-A coverage see reverse side

Printed at Washington, D.C.  
 U.S. DEPARTMENT OF COMMERCE  
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
 NATIONAL OCEAN SURVEY

013  
 8502  
 (7ED)



16013  
 (formerly CAGS 8502)  
 LORAN-C OVERPRINTED

CAUTION  
 This chart has been corrected from the source to Marine  
 published charts by the Defense Mapping Agency. Hydrographic  
 Control and the U.S. Coast Guard Survey Service are responsible for  
 the accuracy of the data shown on this chart.

SOUNDINGS IN FATHOMS

For LORAN-A coverage see reverse side

Published at Washington, D.C.  
 U.S. DEPARTMENT OF COMMERCE  
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
 NATIONAL OCEAN SURVEY

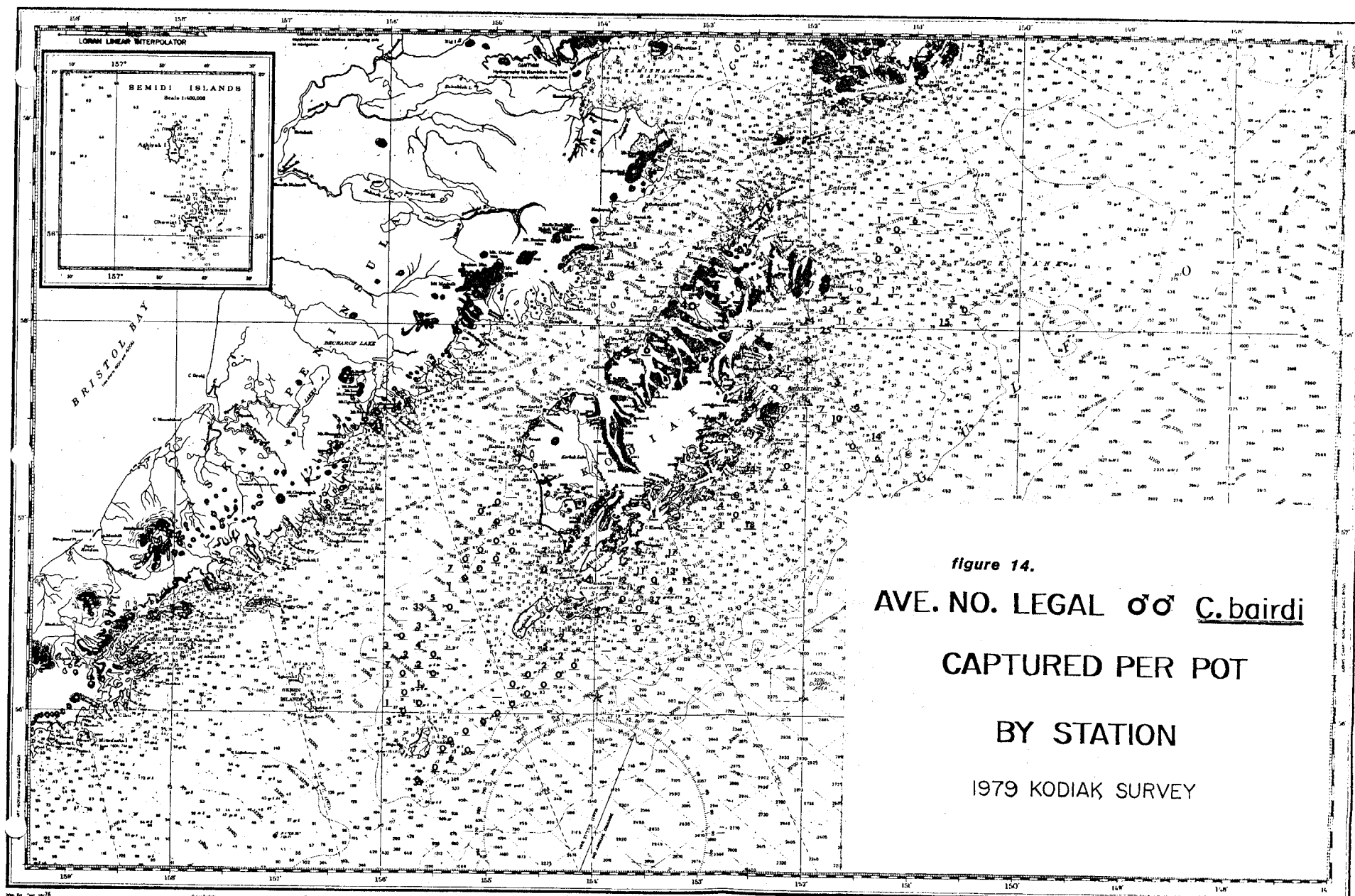


figure 14.

AVE. NO. LEGAL  $\sigma\sigma$  C. bairdi

CAPTURED PER POT

BY STATION

1979 KODIAK SURVEY

16013  
(formerly CAGS 8502)  
LORAN-C OVERPRINTED

SOUNDINGS IN FATHOMS

For LORAN-A coverage see reverse side

Published at Washington, D.C.  
U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

013  
8502  
JTD

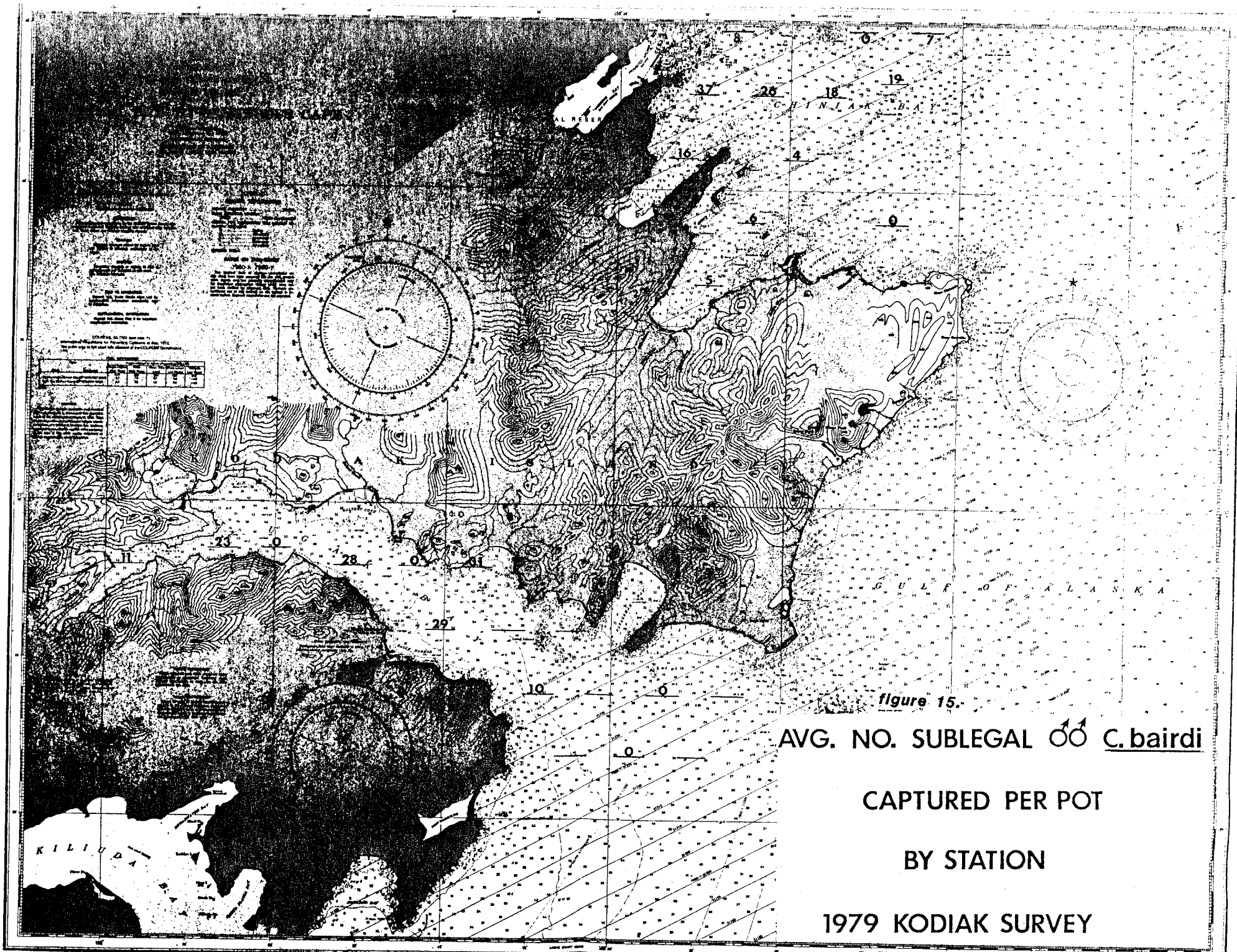


figure 15.

AVG. NO. SUBLEGAL ♂♂ C. bairdi

CAPTURED PER POT

BY STATION

1979 KODIAK SURVEY



figure 18.

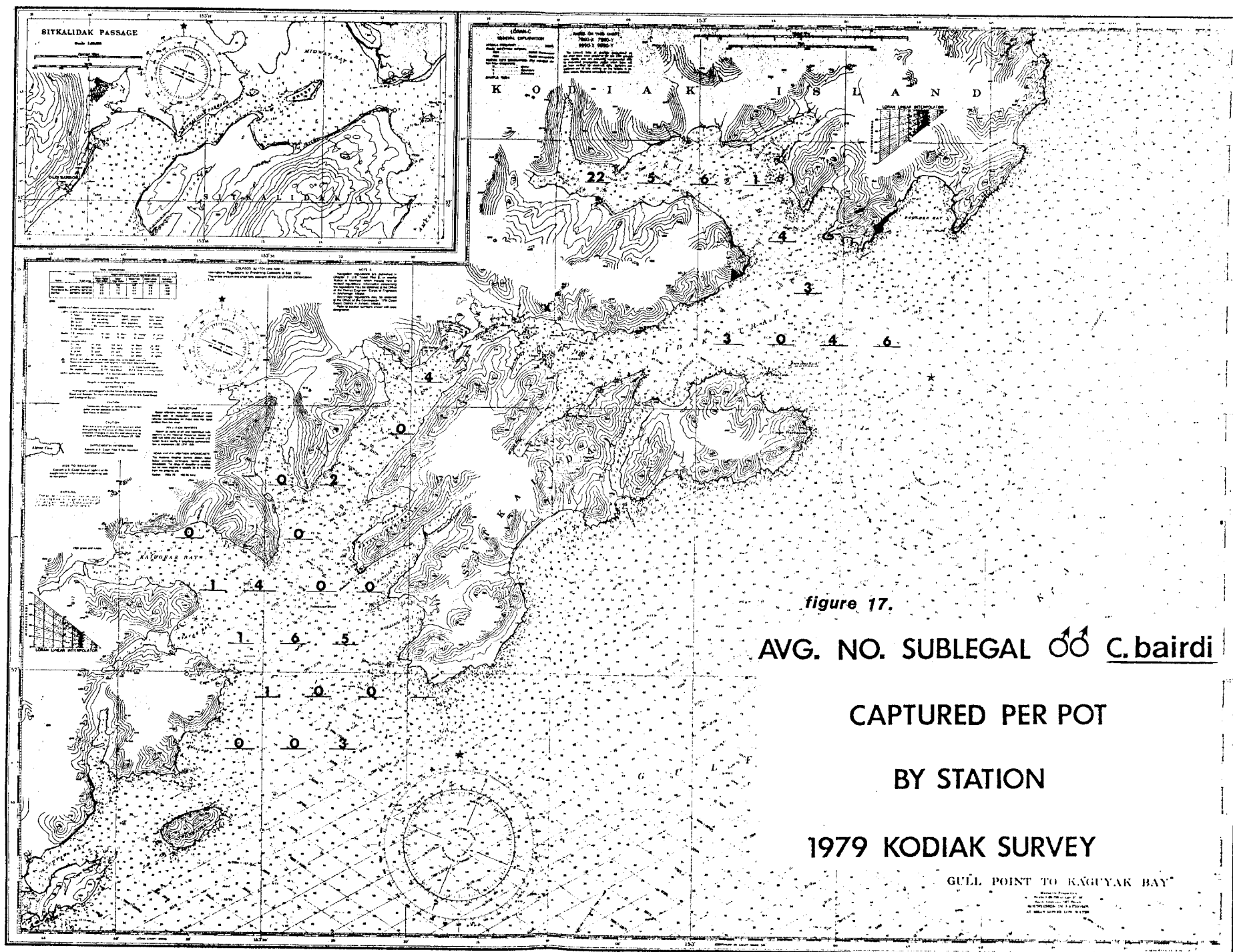
AVG. NO. LEGAL ♂♂ C. bairdi

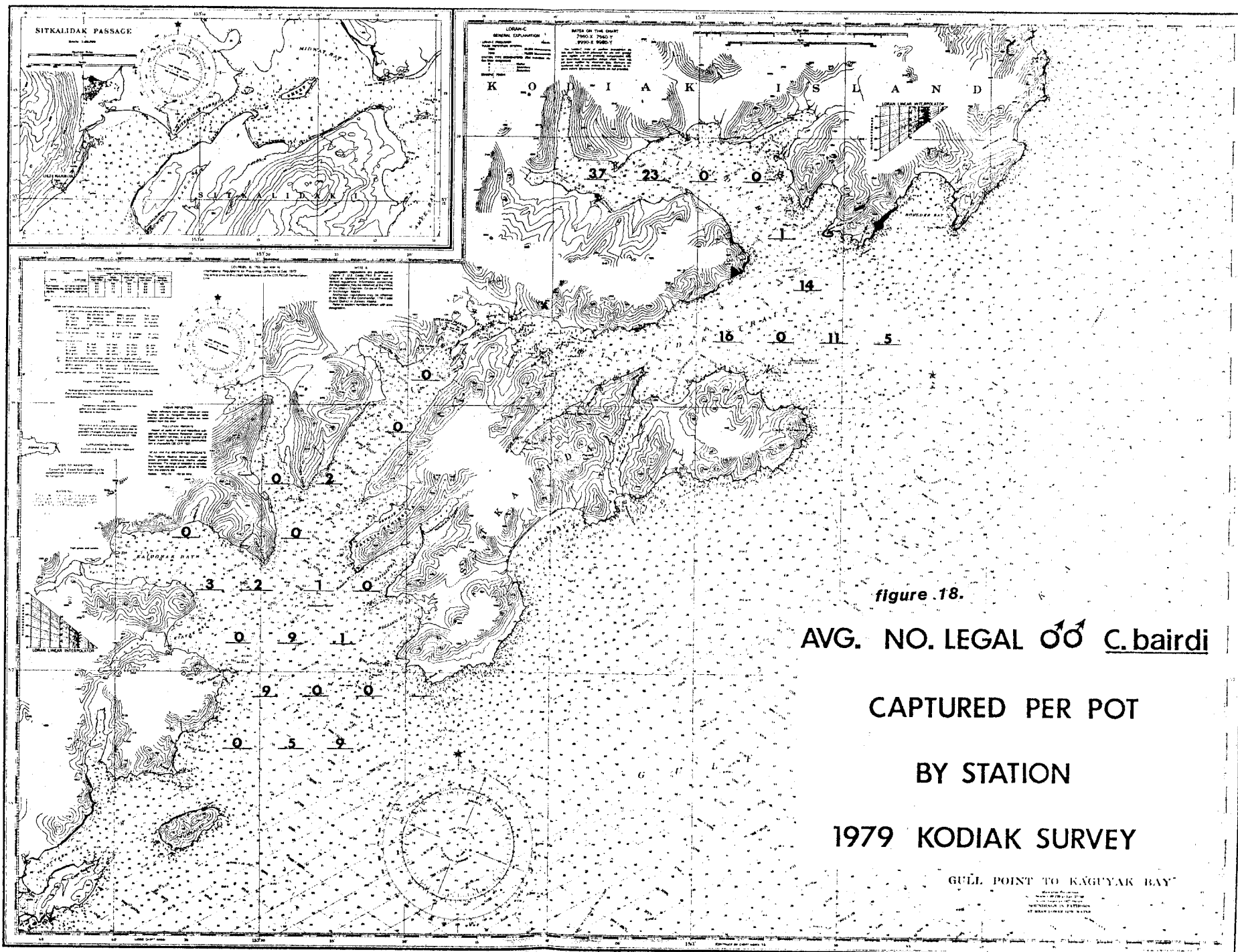
CAPTURED PER POT

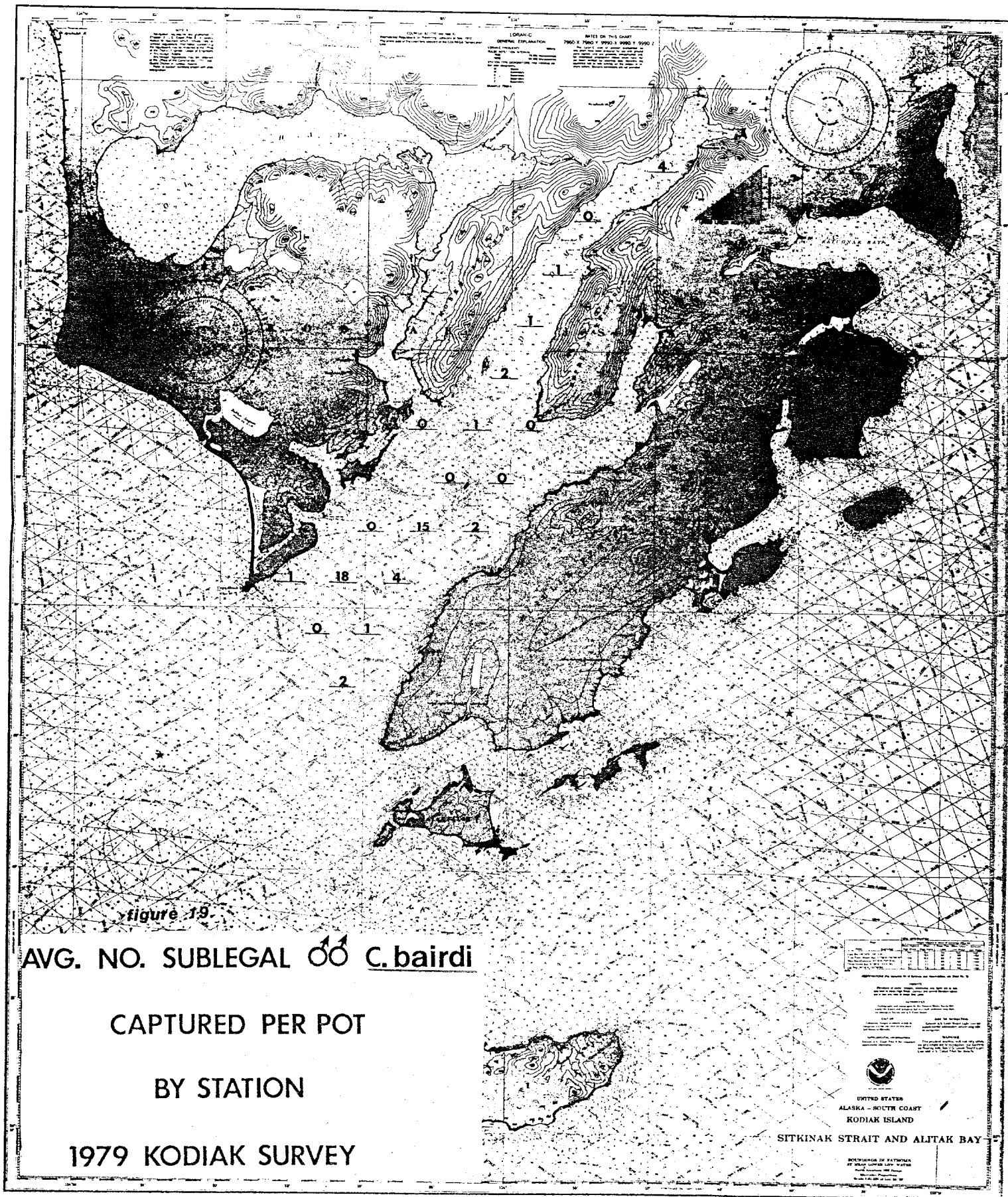
BY STATION

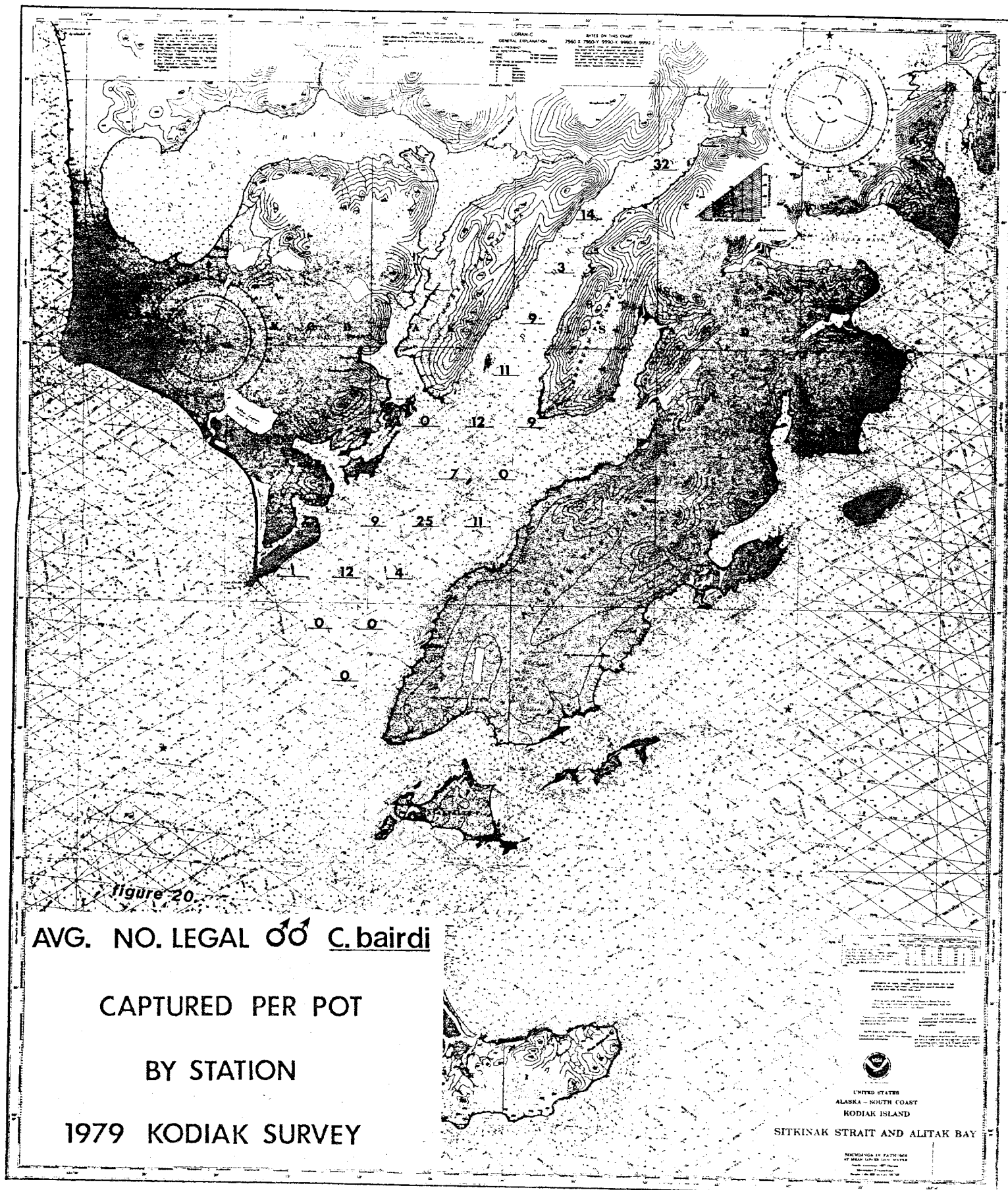
1979 KODIAK SURVEY















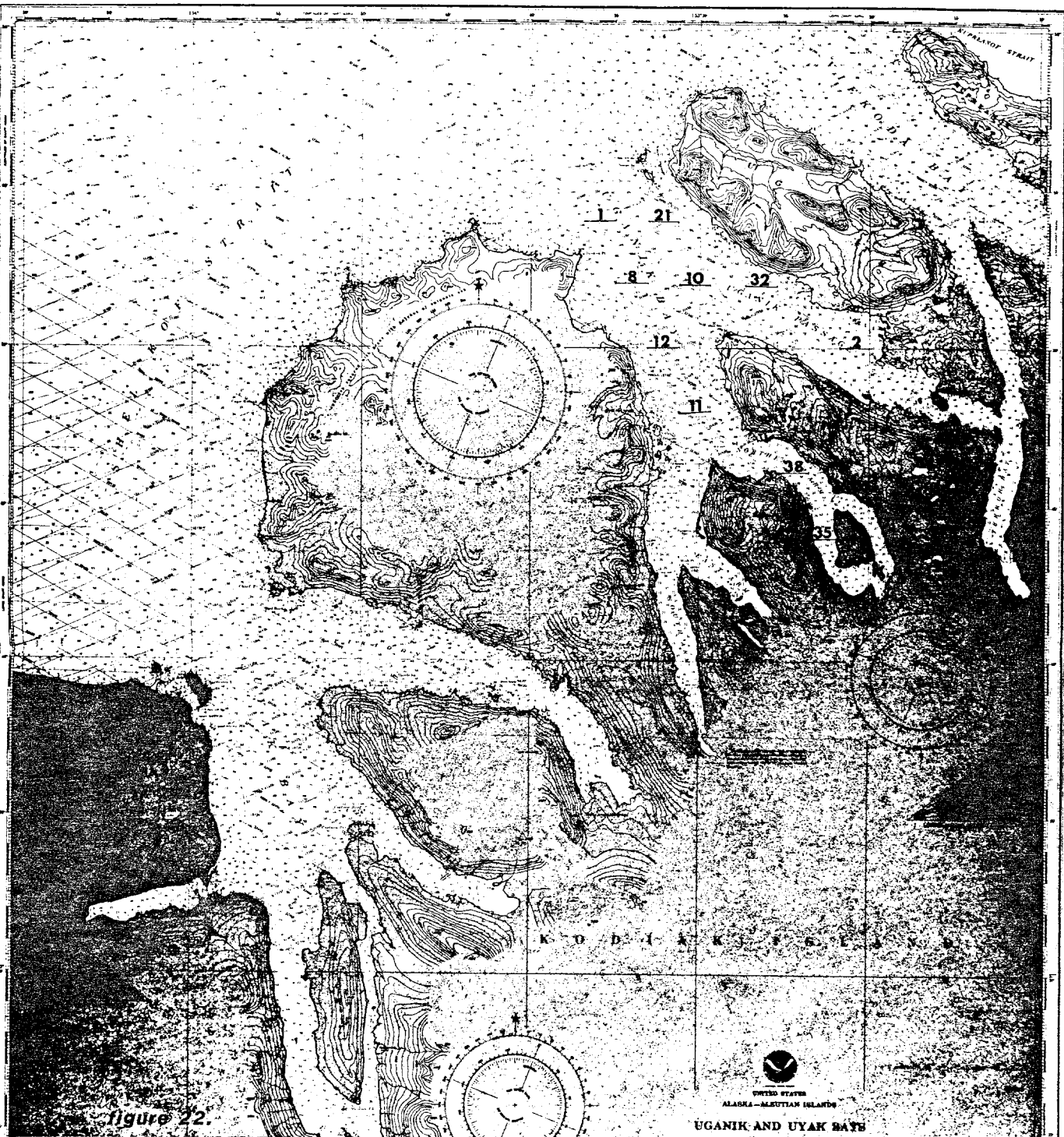


figure 22.

AVG. NO. LEGAL ♂♂ C. bairdi

CAPTURED PER POT  
BY STATION

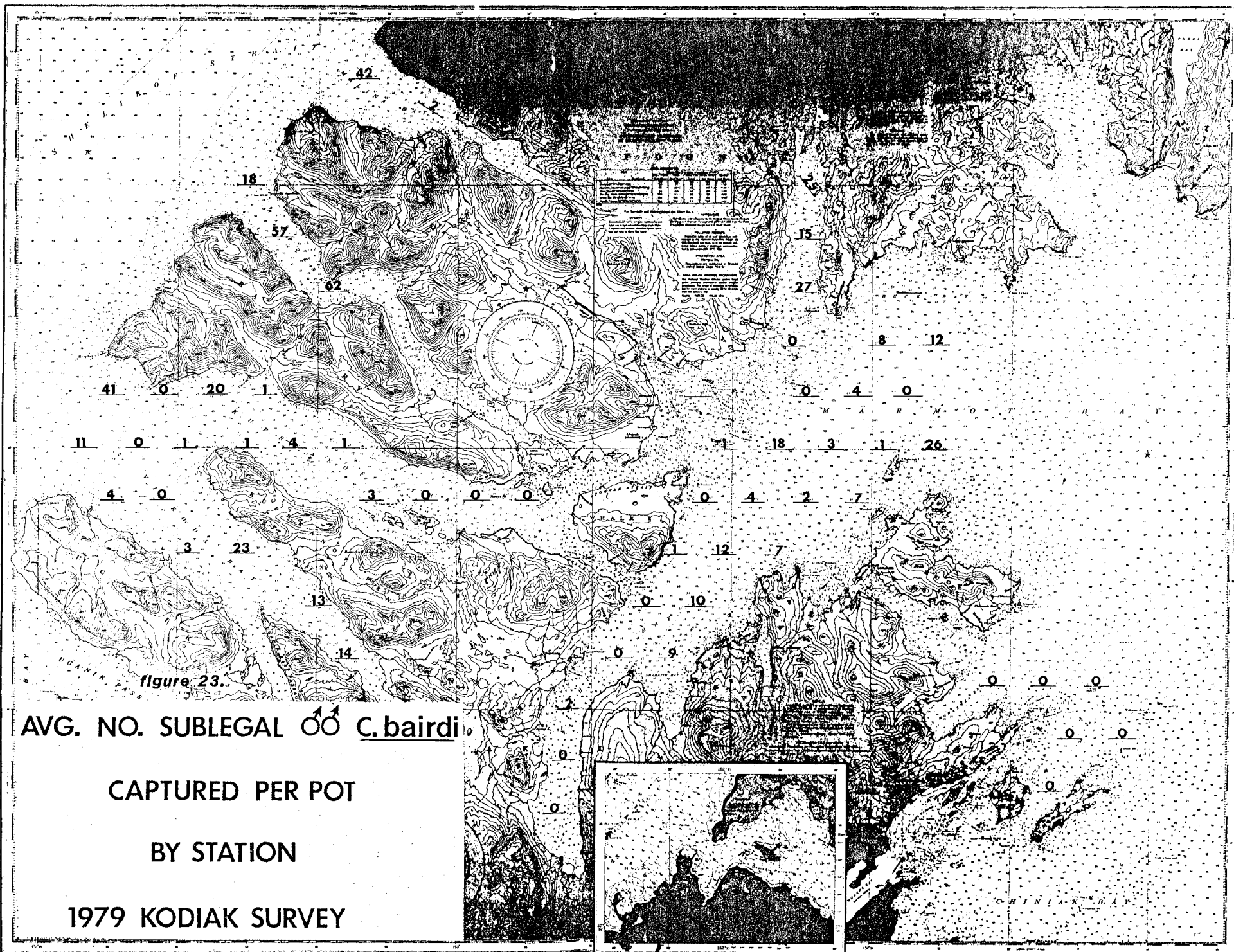
1979 KODIAK SURVEY

UNITED STATES  
ALASKA - ALUTTIAN ISLANDS  
KODIAK ISLAND

STATION	DATE	TIME	NO. OF POT	NO. OF FISH	NO. OF CRAB	NO. OF SHELL	NO. OF OTHER
1	7/1/79	10:00	1	1	1	1	1
2	7/1/79	10:00	1	1	1	1	1
7	7/1/79	10:00	1	1	1	1	1
8	7/1/79	10:00	1	1	1	1	1
10	7/1/79	10:00	1	1	1	1	1
11	7/1/79	10:00	1	1	1	1	1
12	7/1/79	10:00	1	1	1	1	1
21	7/1/79	10:00	1	1	1	1	1
32	7/1/79	10:00	1	1	1	1	1
35	7/1/79	10:00	1	1	1	1	1
38	7/1/79	10:00	1	1	1	1	1

STATION	DATE	TIME	NO. OF POT	NO. OF FISH	NO. OF CRAB	NO. OF SHELL	NO. OF OTHER
1	7/1/79	10:00	1	1	1	1	1
2	7/1/79	10:00	1	1	1	1	1
7	7/1/79	10:00	1	1	1	1	1
8	7/1/79	10:00	1	1	1	1	1
10	7/1/79	10:00	1	1	1	1	1
11	7/1/79	10:00	1	1	1	1	1
12	7/1/79	10:00	1	1	1	1	1
21	7/1/79	10:00	1	1	1	1	1
32	7/1/79	10:00	1	1	1	1	1
35	7/1/79	10:00	1	1	1	1	1
38	7/1/79	10:00	1	1	1	1	1

NOTES ON THE MAP  
7000-1 7000-2  
0000-1 0000-2

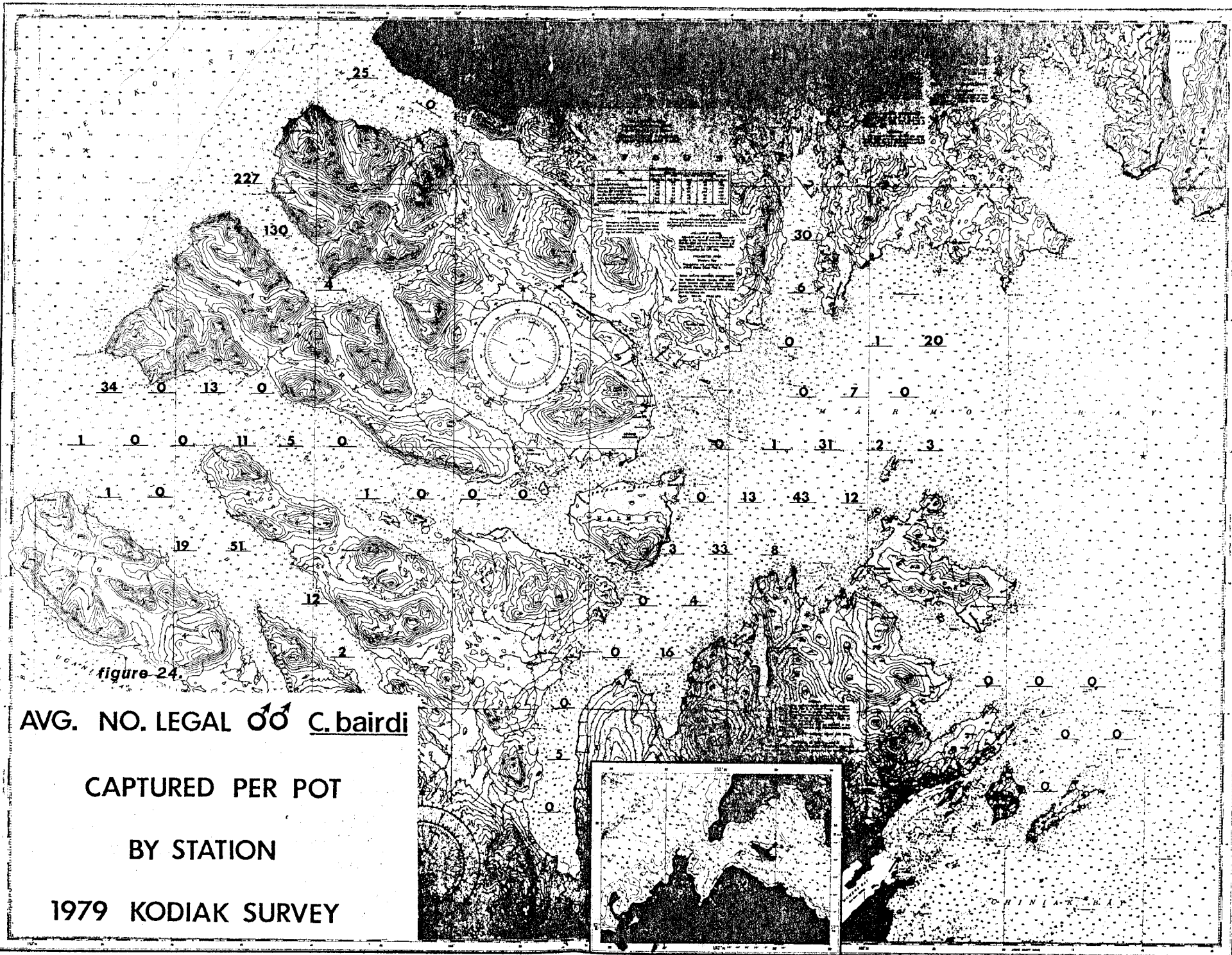


AVG. NO. SUBLEGAL ♂♂ C. bairdi

CAPTURED PER POT

BY STATION

1979 KODIAK SURVEY





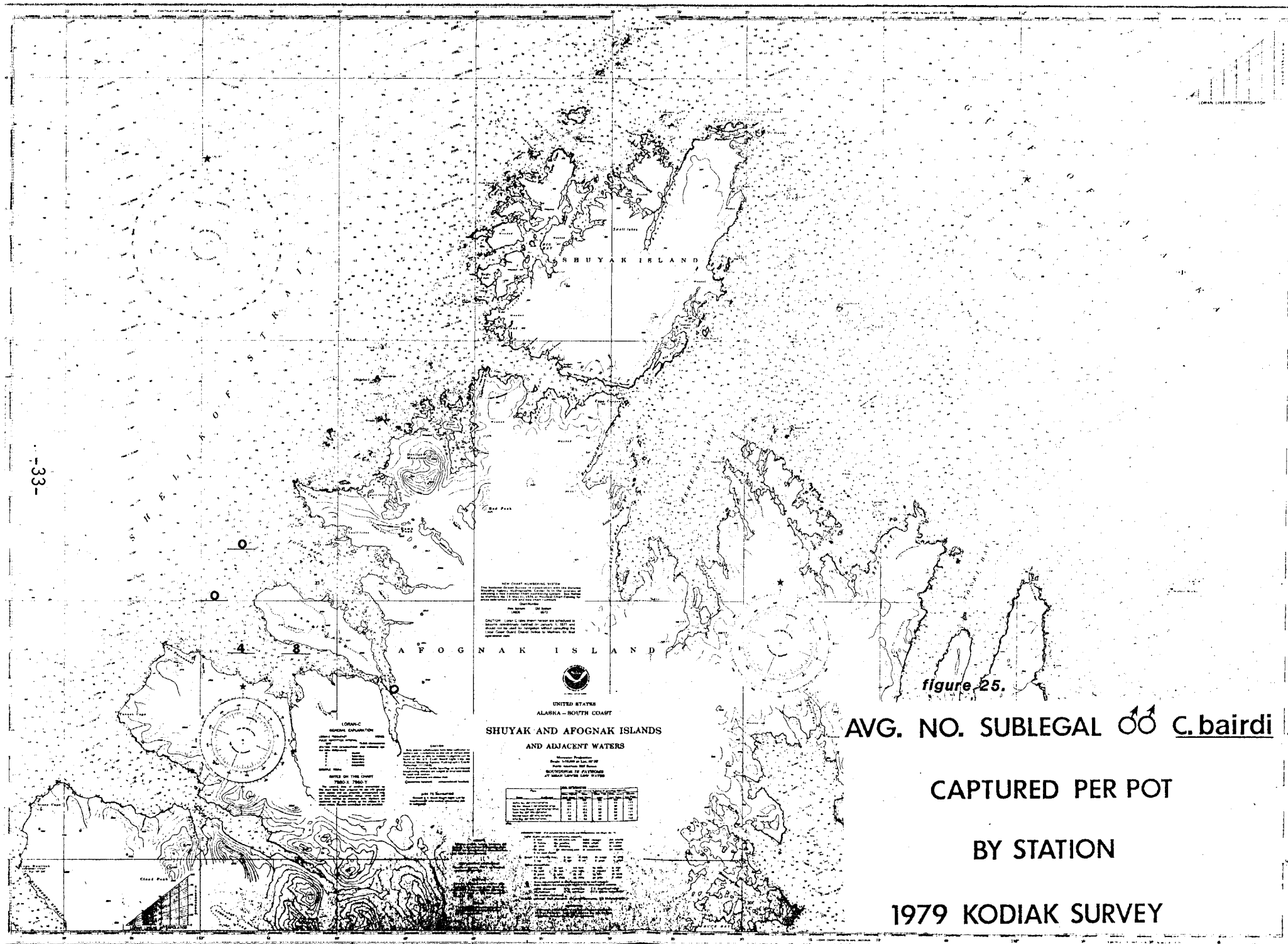


figure 25.

AVG. NO. SUBLEGAL  $\phi\phi$  C. bairdi

CAPTURED PER POT

BY STATION

1979 KODIAK SURVEY

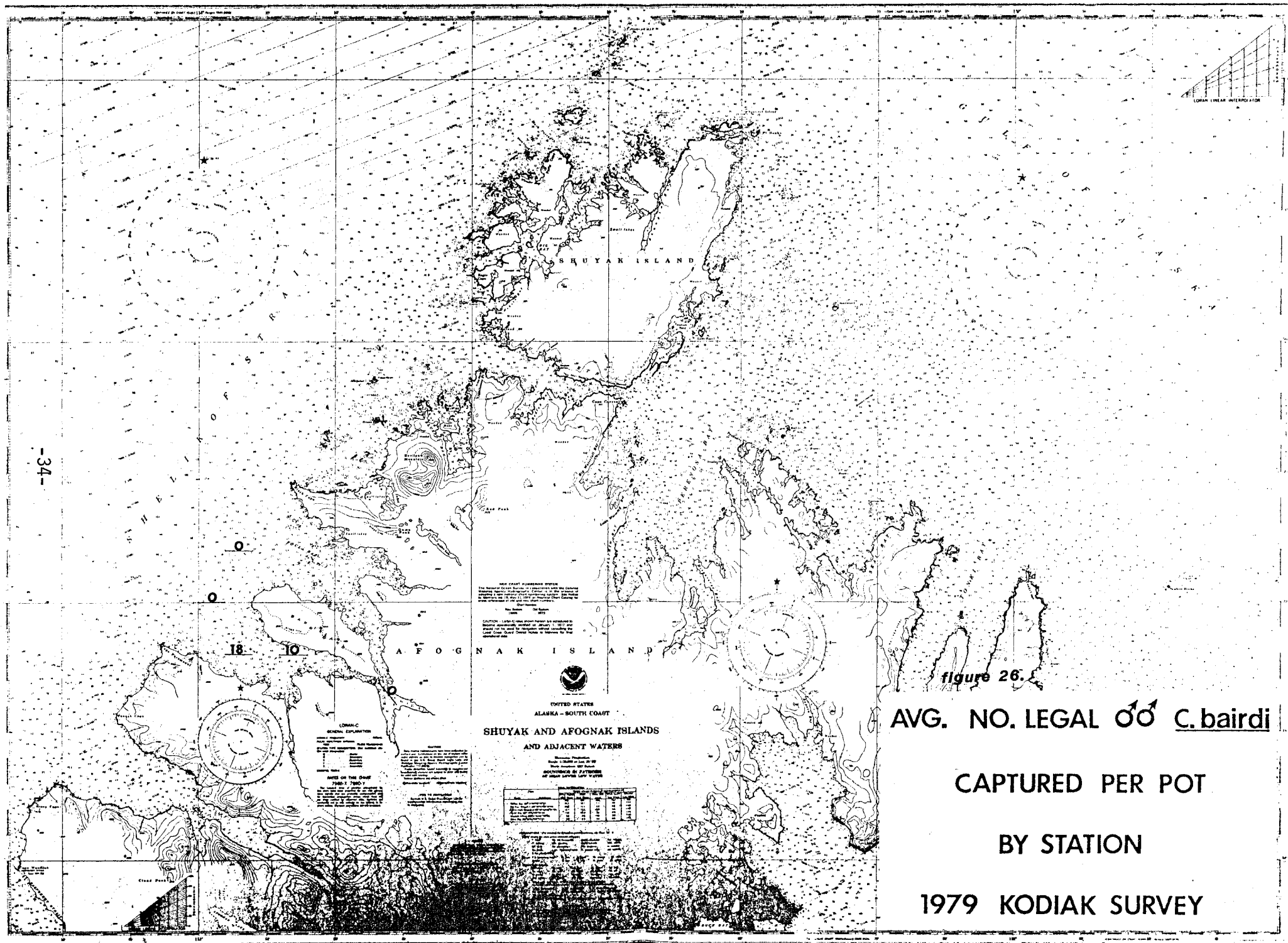


Table 3. Year class (cohort) strengths by number of male Tanner crab *Chionoecetes bairdi*, captured and percent of male catch for years 1978 - 1979, Kodiak.

Cohort Group (mm)	1978		1979	
	No.	%	No.	%
4 ≤ 69	1	.00	5	.00
3 70 - 91	4	.00	70	.1
2 92 - 114	290	3.5	813	6.2
1 115 - 139	3,053	37.3	4,782	36.2
Newshell R 140 - 164	2,184	26.7	2,409	18.3
Oldshell & VOS PR I 140 - 164	1,920	23.4	3,180	24.1
PR 2 ≥ 165	742	9.1	1,935	14.7
Legal Total ≥ 140	4,846	59.1	7,524	57.0
Total crabs	8,194		13,194	
$\bar{x}$ (mm)	144		144	
Pot Lifts	895		1,709	

Table 4. Number of male Tanner crab, *Chionoecetes bairdi*, captured by cohort and exoskeletal age group, 1978 - 1979, Kodiak

Cohort Group	1978			1979		
	NS <sup>1</sup>	OS <sup>2</sup>	VOS <sup>3</sup>	NS <sup>1</sup>	OS <sup>2</sup>	VOS <sup>3</sup>
Fours ≤ 69	1	0	0	5	0	0
Threes 70 - 91	2	2	0	57	10	1
Twos 94 - 114	89	150	48	300	451	65
Ones 115 - 139	1,272	1,575	206	1,158	3,446	176
Newshell Recruits 140 - 164	2,184	--	--	2,409	--	--
Post recruits 1 Oldshell & VOS	--	1,828	92	--	3,146	34
Post recruits 2 ≥ 165	382	341	21	1,154	782	0
Total	3,930	3,896	367	5,083	7,835	276
% of Total	48.0	47.5	4.5	38.5	59.4	2.1

- <sup>1</sup> NS Newshell  
<sup>2</sup> OS Oldshell  
<sup>3</sup> VOS Very Oldshell

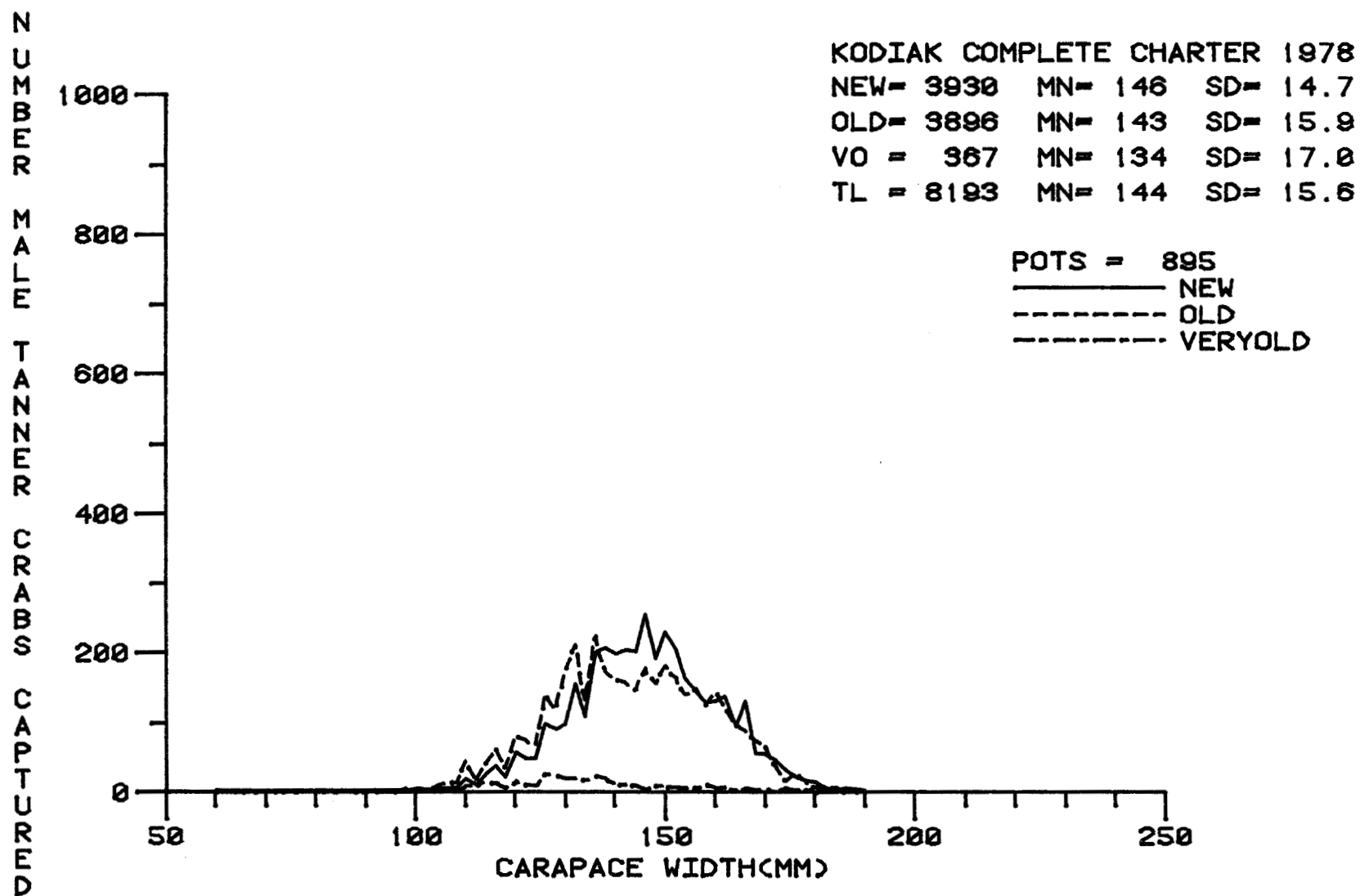


Figure 27. Carapace width frequency of new, old, and very oldshell male Tanner crab, *Chionoecetes bairdi*, captured in 1978 Kodiak survey.

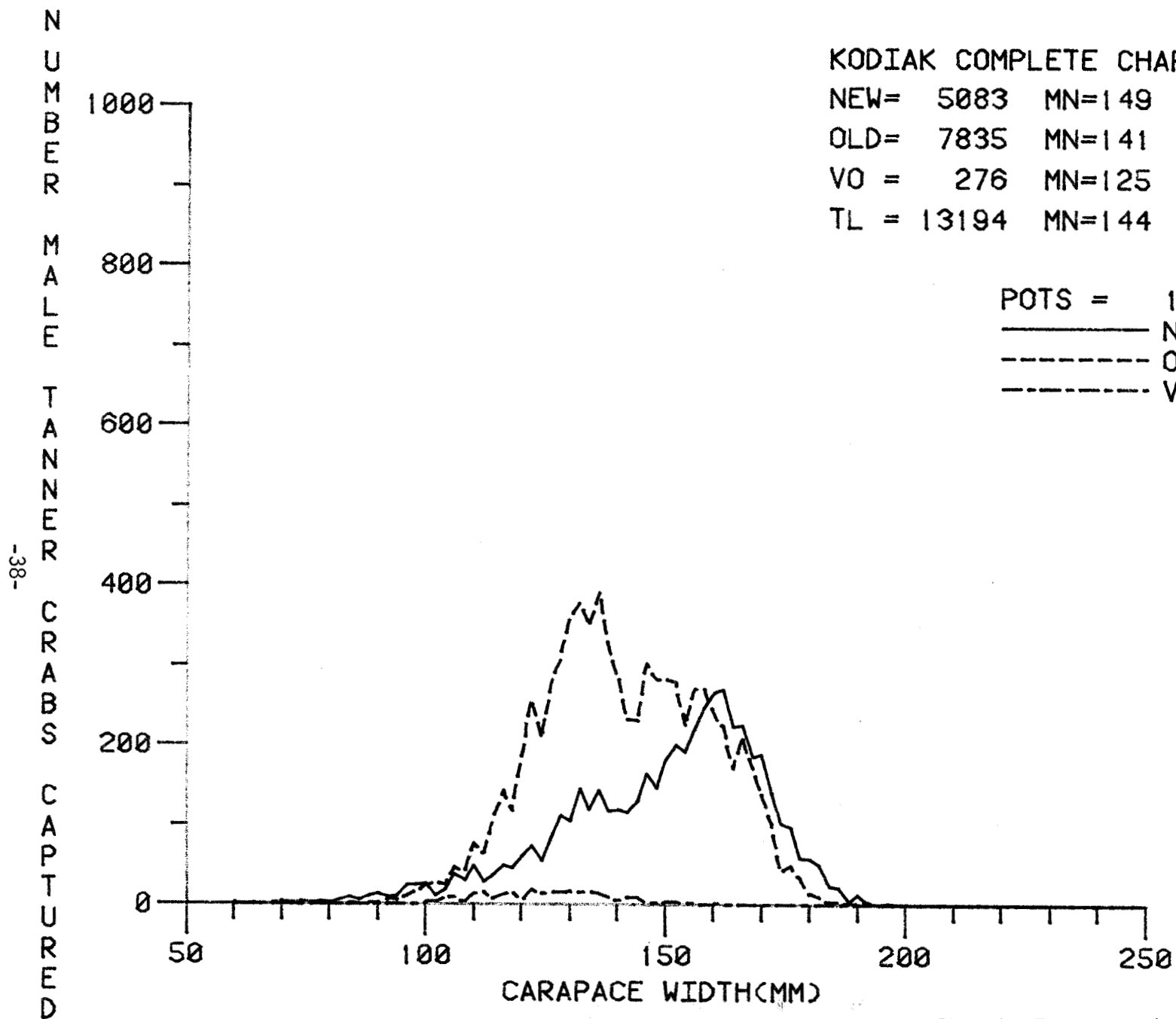
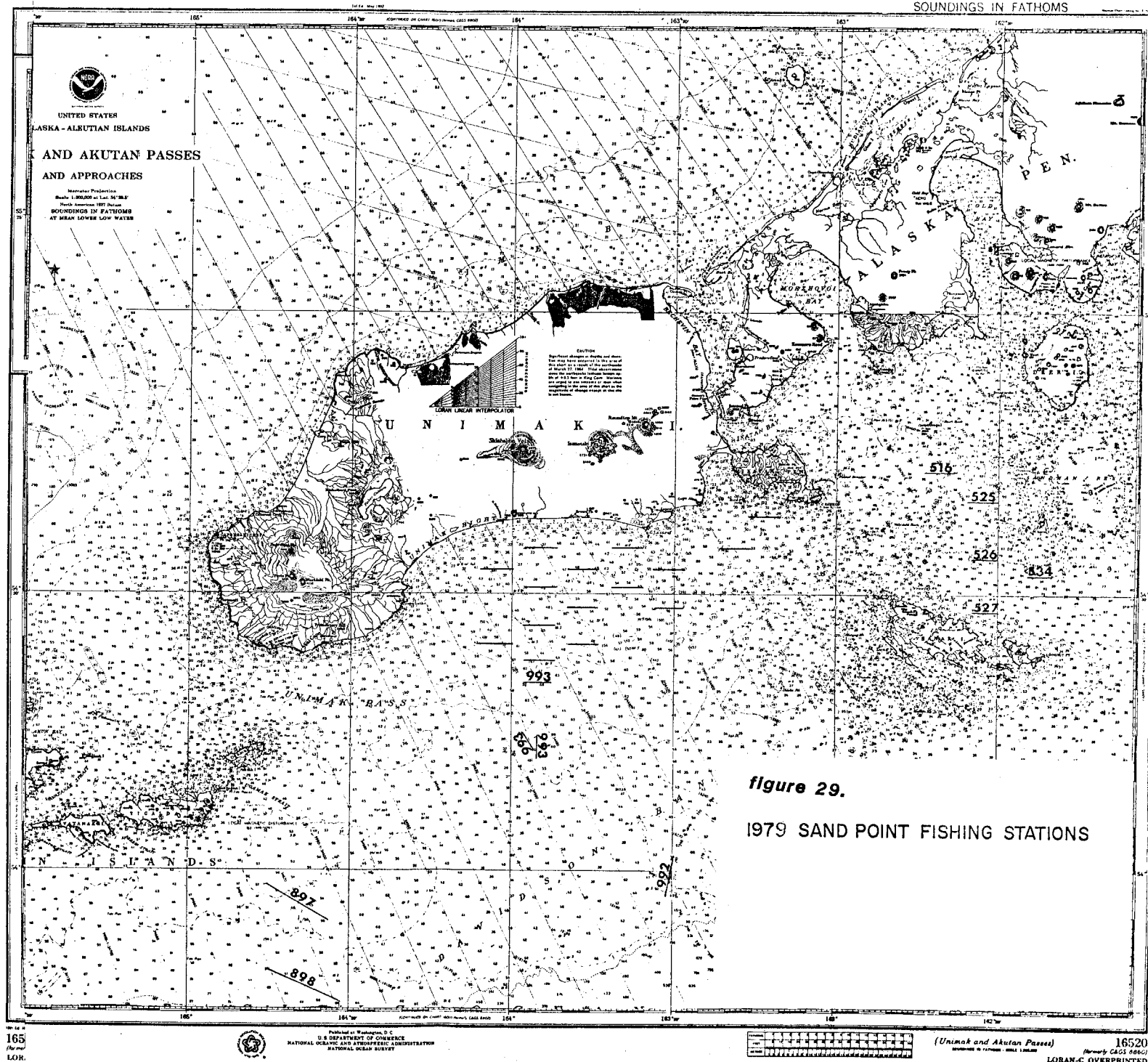


Figure 28. Carapace width frequency of new, old, and very old shell male Tanner crab, *Chionoecetes bairdi*, captured in the 1979 Kodiak survey.









For Symbols and Abbreviations see Chart No. 1

**NOTES**  
1. Soundings in this chart are in fathoms, except where otherwise indicated.  
2. The depth of the water is indicated by the number of fathoms, except where otherwise indicated.  
3. The depth of the water is indicated by the number of fathoms, except where otherwise indicated.

**CAUTION** - Users of this chart should be aware that the soundings in this chart are based on the best available information and are not guaranteed to be accurate.

#### LORAN-C

##### GENERAL EXPLANATION

**UNIT OF MEASUREMENT**  
The unit of measurement for the LORAN-C system is the mile. The distance between the stations is measured in miles.

#### RATES ON THIS CHART

9990 X 9990 Y 9990 Z

The rates on this chart are in miles per hour. The rate of travel is measured in miles per hour.

## UNITED STATES ALASKA-SOUTH COAST ALASKA PENINSULA SHUMAGIN ISLANDS TO SANAK ISLANDS

SOUNDINGS IN FATHOMS  
AT MEAN LOW WATER

SOUNDINGS IN FATHOMS

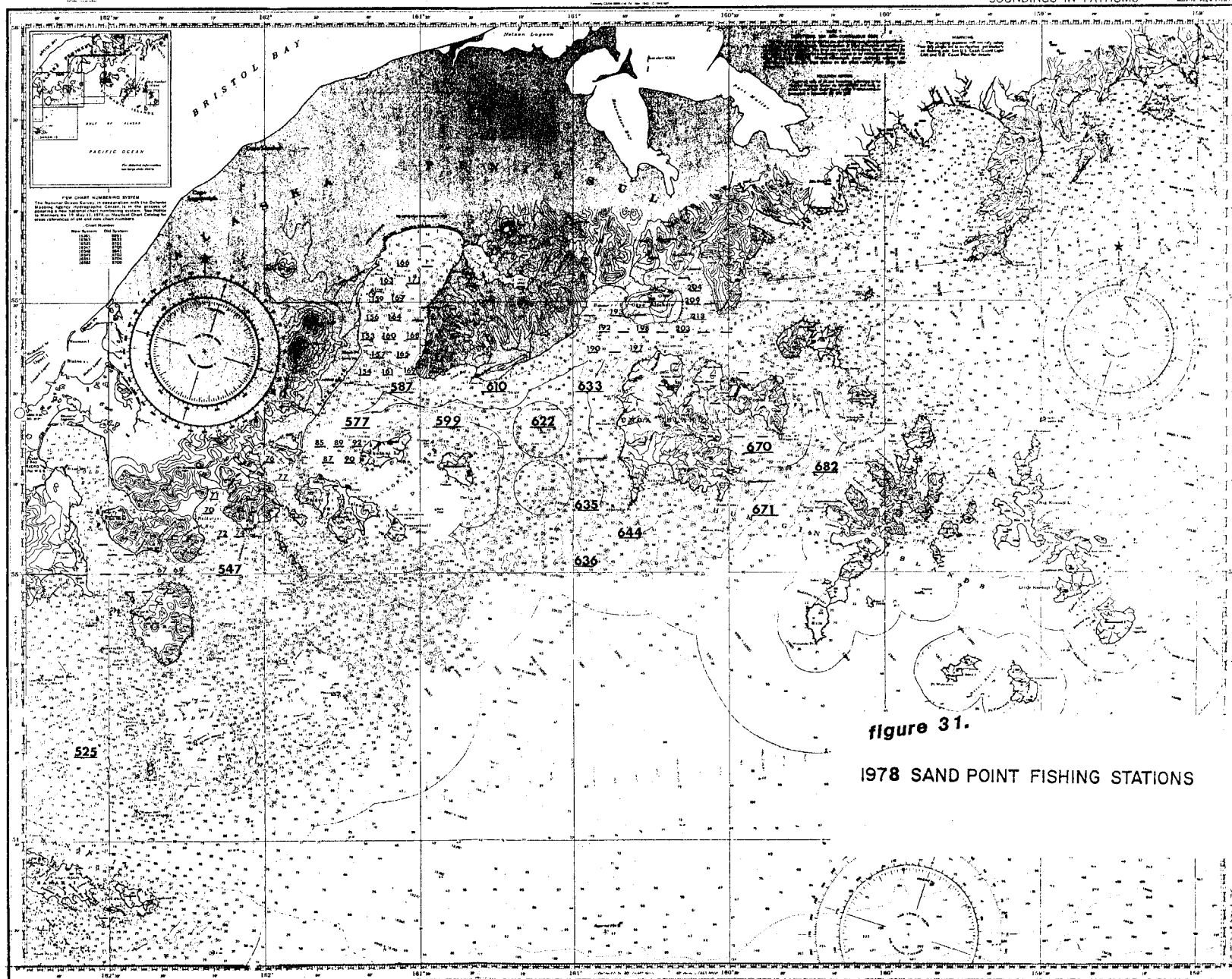


figure 31.

1978 SAND POINT FISHING STATIONS

16540  
LORAN-C OVERPRINTED

SOUNDINGS IN FATHOMS

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL SEA SERVICE

(Shumagin Islands to Sanak Islands)  
SOUNDINGS IN FATHOMS - MEAN LOW WATER

16540  
LORAN-C OVERPRINTED

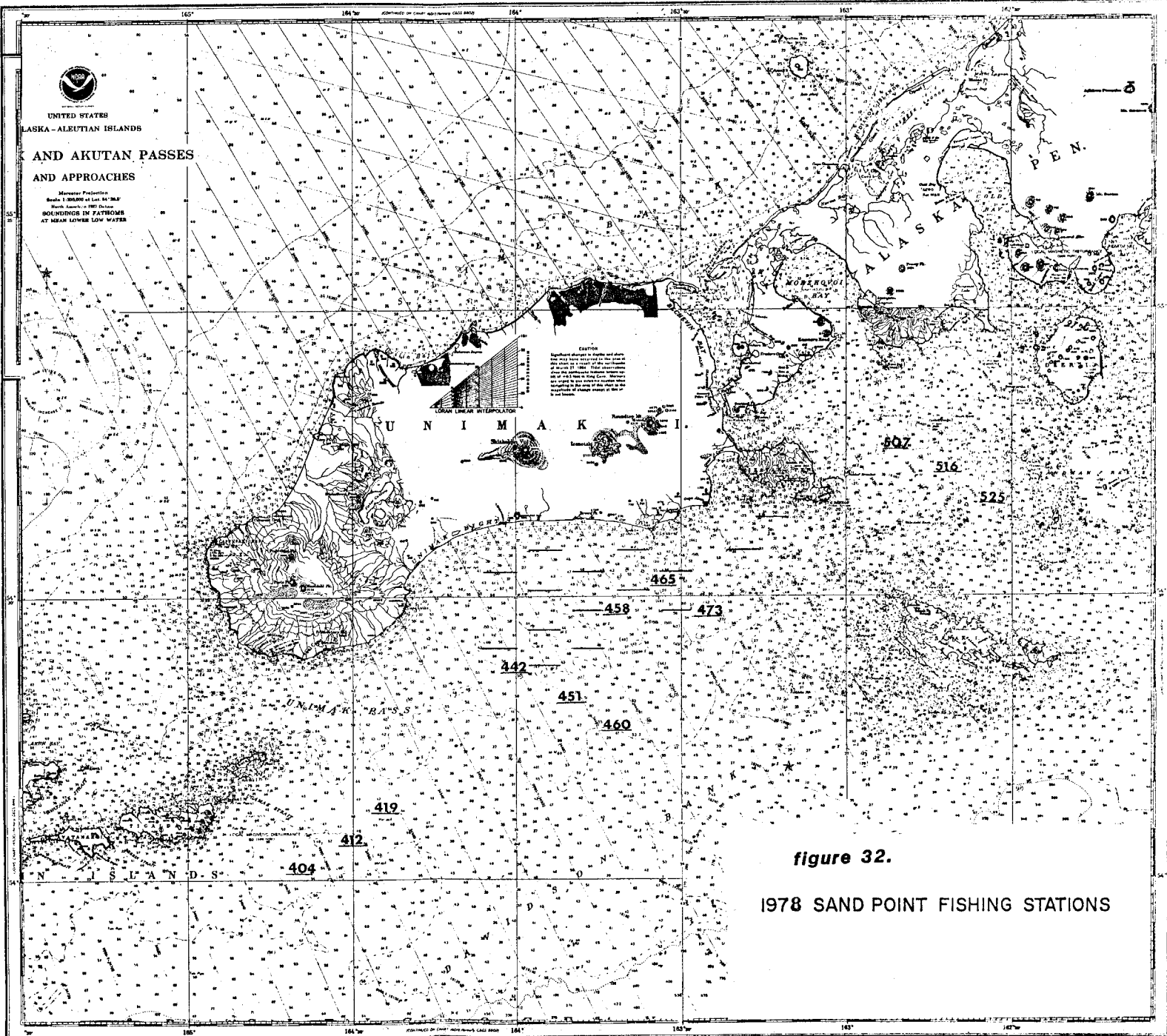


figure 32.

1978 SAND POINT FISHING STATIONS



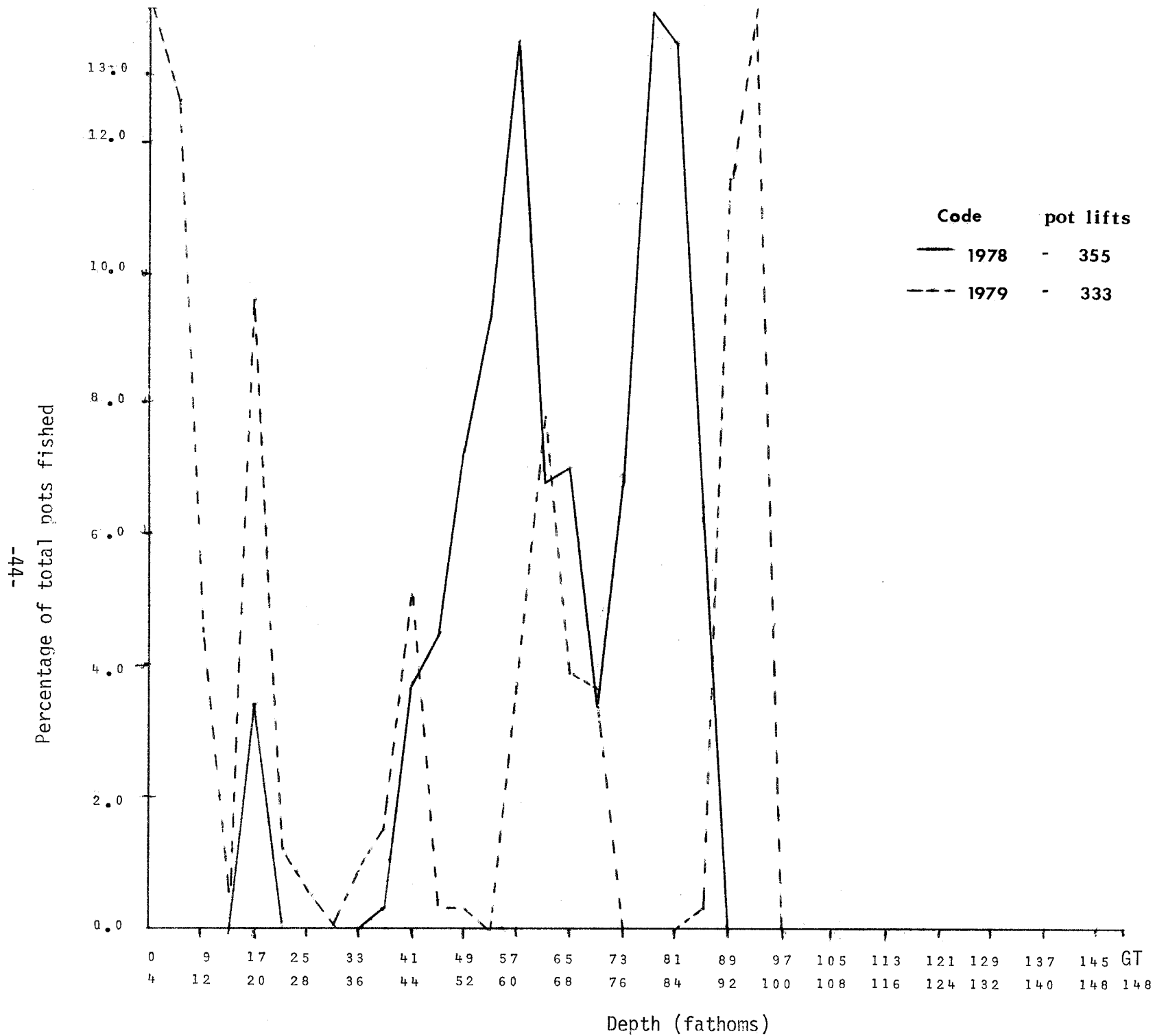


Figure 34. Percentage of the total number of pots fished by depth interval 1978-1979, Sand Point.



NOTES  
1. This chart is based on the latest available information.  
2. The soundings are in fathoms, except where otherwise indicated.  
3. The depths are given in fathoms, except where otherwise indicated.  
4. The depths are given in fathoms, except where otherwise indicated.  
5. The depths are given in fathoms, except where otherwise indicated.

LEGEND  
GENERAL EXPLANATION  
SOUNDINGS IN FATHOMS  
AT MEAN LOW WATER

UNITED STATES  
ALASKA—SOUTH COAST  
ALASKA PENINSULA  
SHUMAGIN ISLANDS TO SANAK ISLANDS

SHUMAGIN ISLANDS TO SANAK ISLANDS

SOUNDINGS IN FATHOMS  
AT MEAN LOW WATER

SOUNDINGS IN FATHOMS

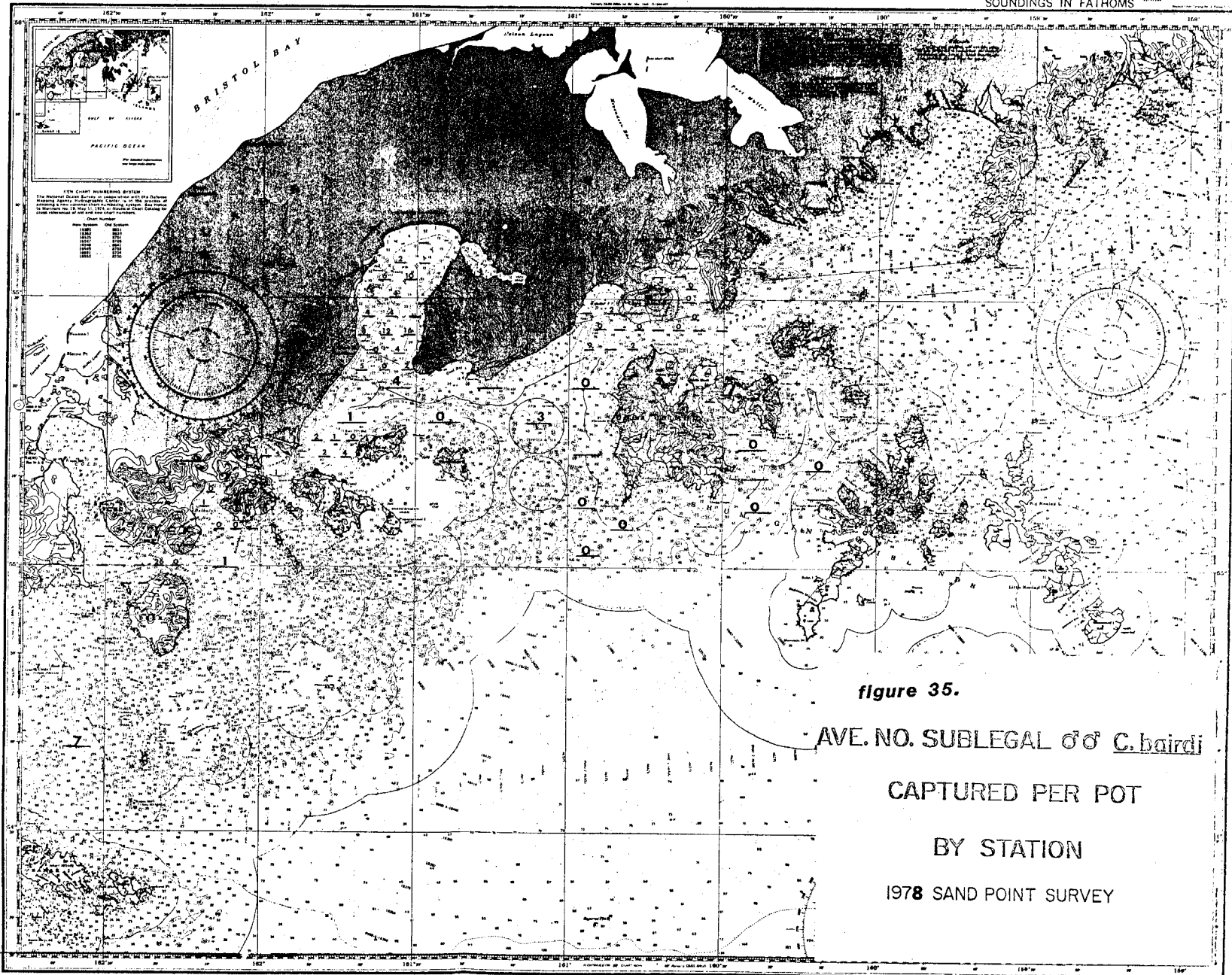


figure 35.

AVE. NO. SUBLEGAL ♂♂ *C. bairdi*

CAPTURED PER POT

BY STATION

1978 SAND POINT SURVEY

For Symbols and Abbreviations see Chart No. 1

**NOTES**  
 1. Depth of water shown in fathoms and meters.  
 2. Soundings in fathoms are preceded by 'f' and soundings in meters by 'm'.  
 3. Depth of water shown in fathoms and meters.  
 4. Depth of water shown in fathoms and meters.  
 5. Depth of water shown in fathoms and meters.



**EXPLANATION**  
 Symbols and abbreviations used on this chart are explained in the following table.

**LORAN-C**

**GENERAL EXPLANATION**  
 LORAN-C is a radio navigation system which uses two stations, one transmitting and one receiving, to determine position. The system is based on the principle of time difference of arrival of signals from the two stations.

**RATES ON THIS CHART**

9990-X 9990-Y 9970-Z  
 The rates on this chart are given in knots and miles per hour. The rates are given in knots and miles per hour.

UNITED STATES  
 ALASKA-SOUTH COAST  
 ALASKA PENINSULA  
**SHUMAGIN ISLANDS TO SANAK ISLANDS**

SOUNDINGS IN FATHOMS  
 AT MEAN LOWER LOW WATER

SOUNDINGS IN FATHOMS

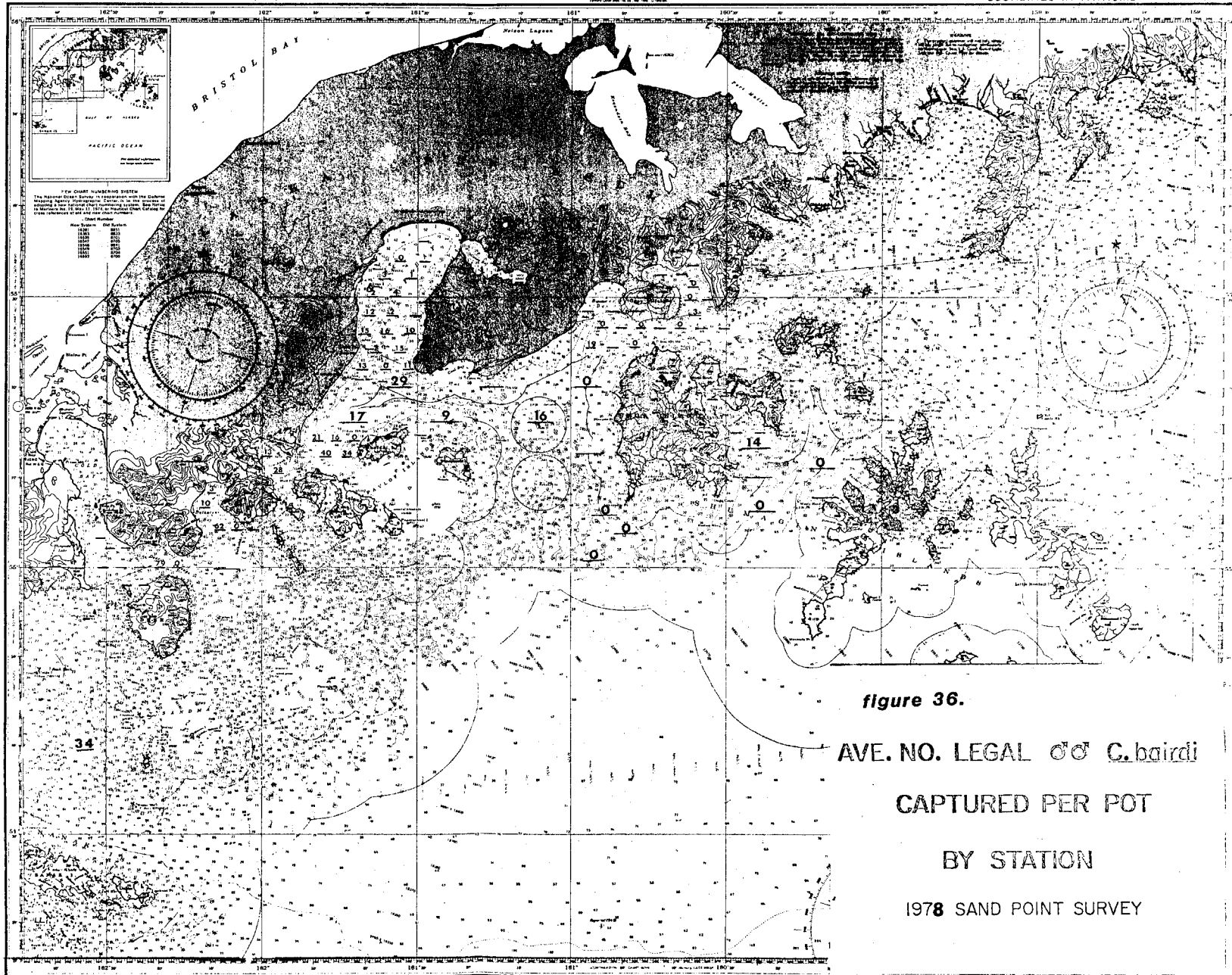


figure 36.

AVE. NO. LEGAL ♂♂ *C. bairdi*  
 CAPTURED PER POT  
 BY STATION  
 1978 SAND POINT SURVEY



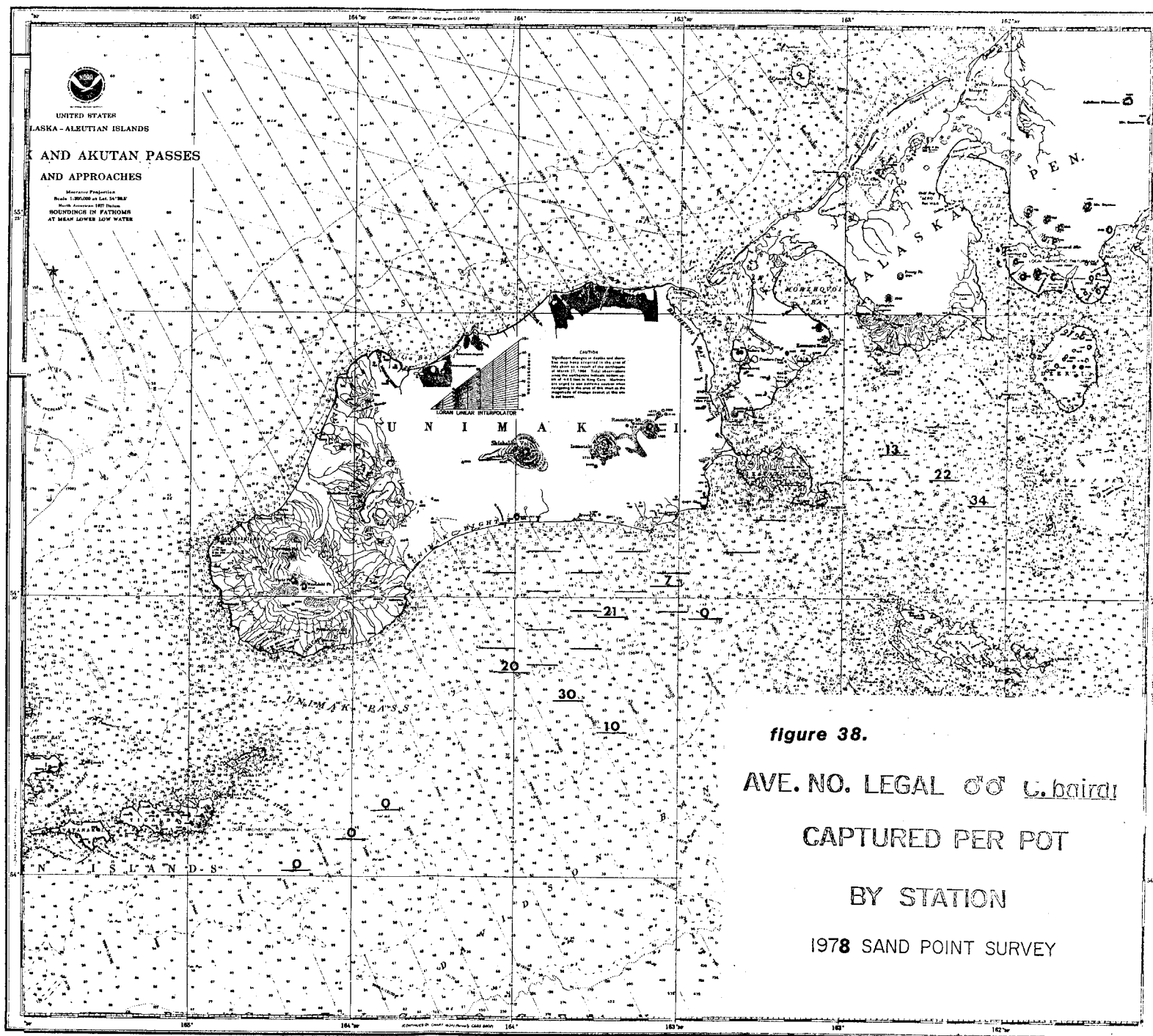
**figure 37.**

AVE. NO. SUBLEGAL ♂♂ C. bairdi

CAPTURED PER POT

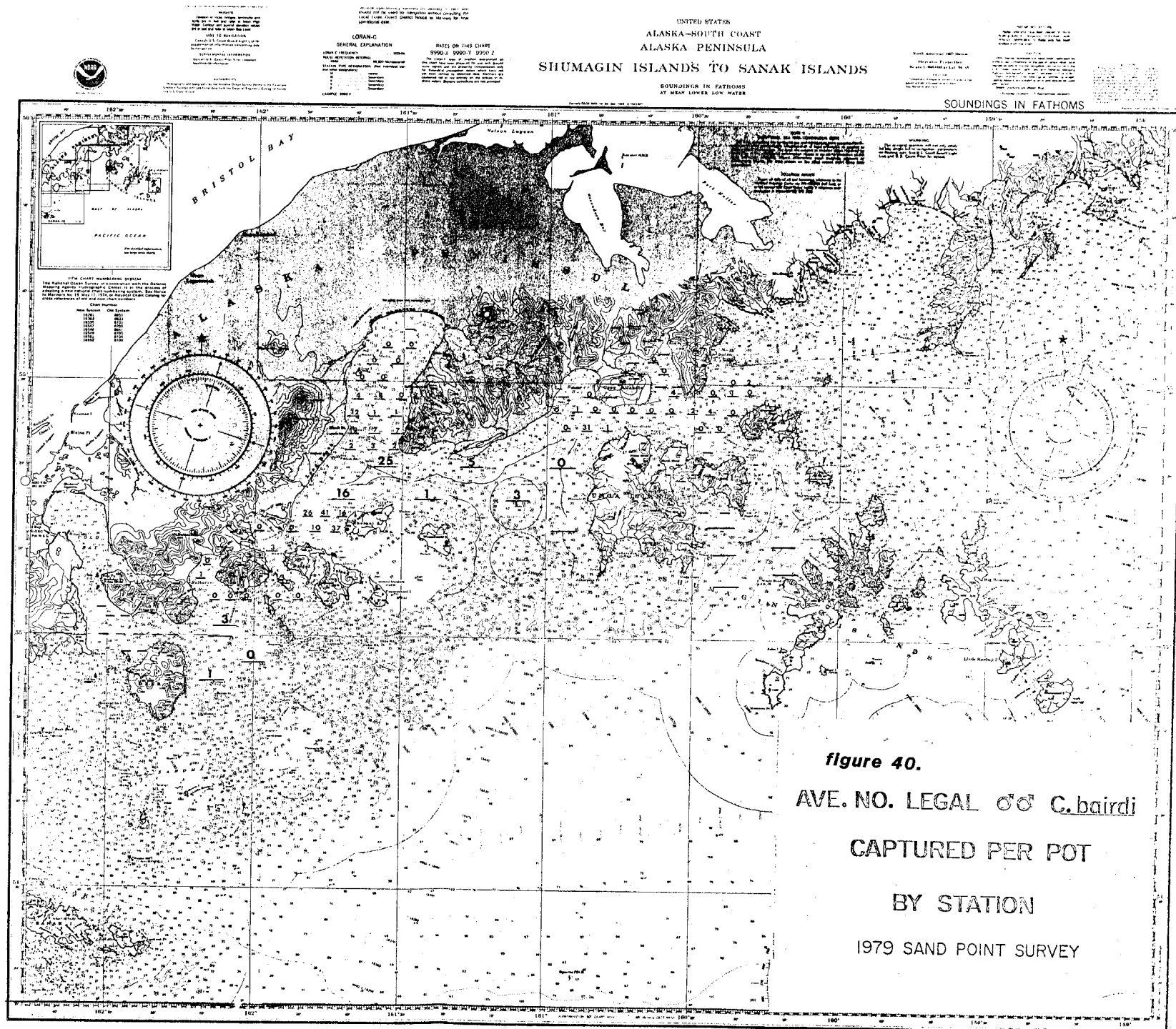
BY STATION

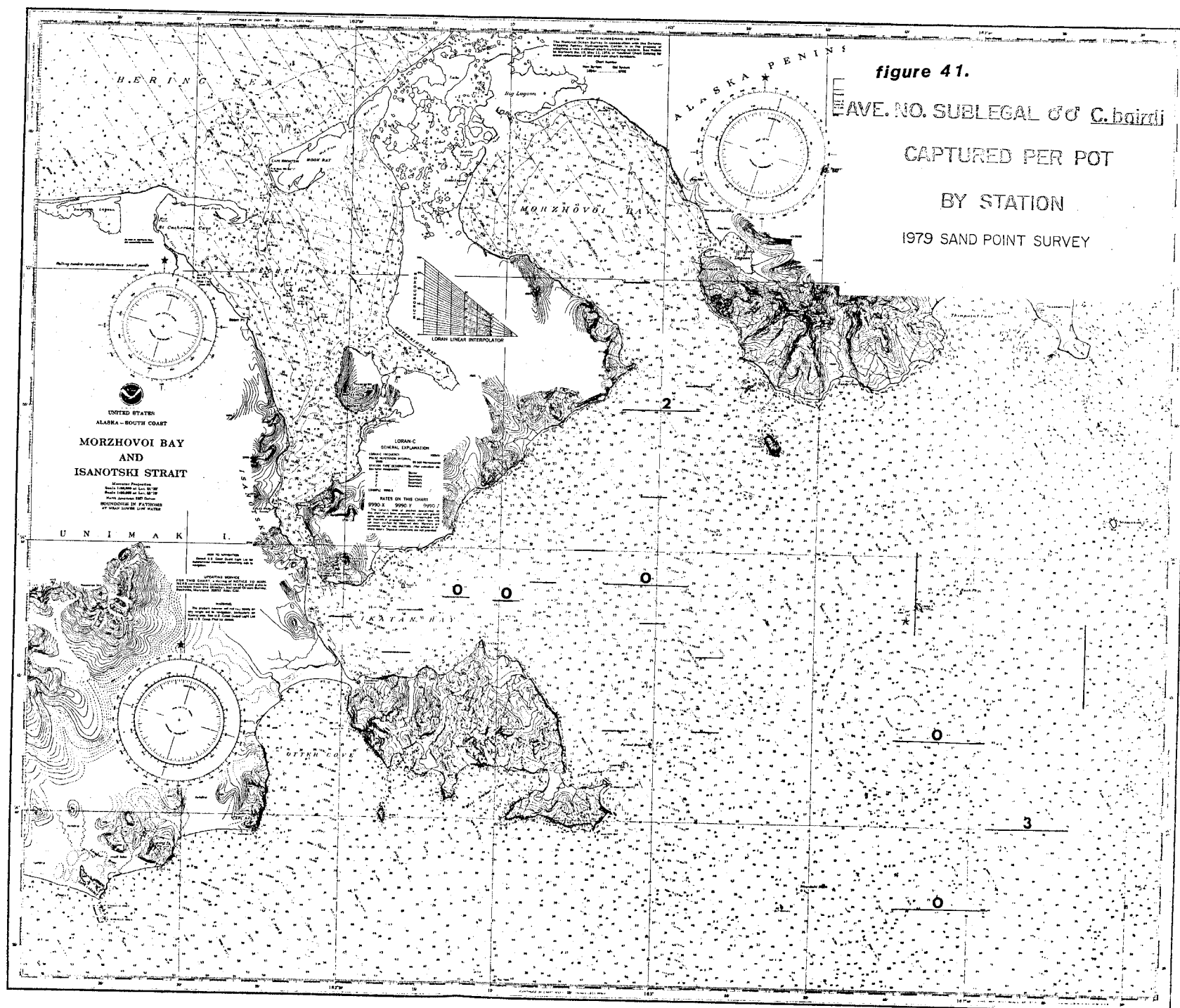
1978 SAND POINT SURVEY

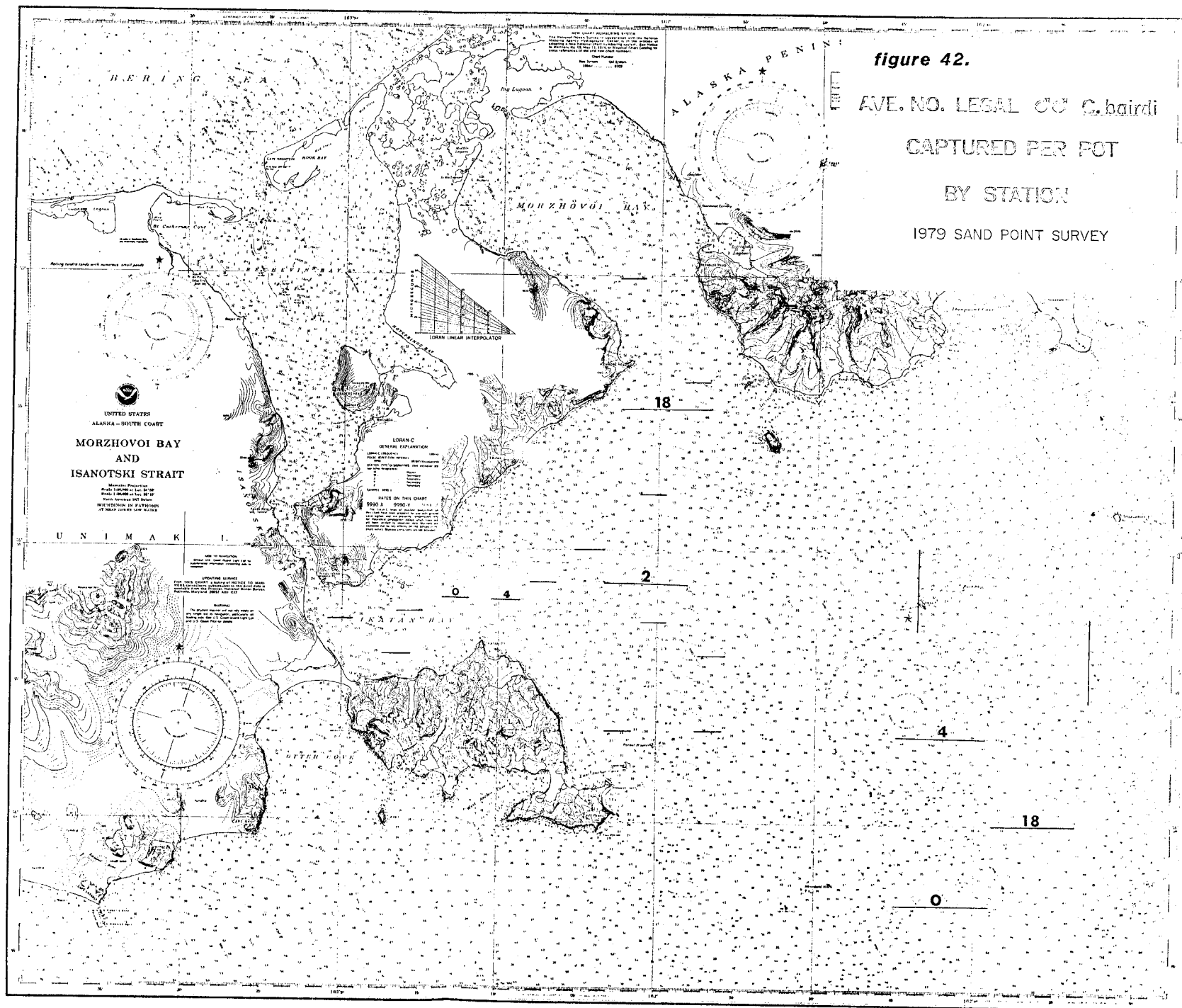




AVE. NO. SUBLEGAL ♂♂ C. bairdi  
CAPTURED PER POT  
BY STATION  
1979 SAND POINT SURVEY







**figure 43.**

AVE. NO. SUBLEGAL ♂♂ C. bairdi

CAPTURED PER POT

BY STATION

- 1979 SAND POINT SURVEY

figure 44.

AVE. NO. LEGAL ♂♂ C. bairdi

CAPTURED PER POT

BY STATION

1979 SAND POINT SURVEY

### Size Composition:

The average size of male crab captured in 1978 was 153 mm compared to 151 mm in 1979 (Table 5). Crabs  $\geq 140$  mm were the most frequently captured size group comprising up to 79.2% of the catch in 1978 and 71.6% in 1979. One only crab  $\leq 69$  mm was captured in each survey.

### Exoskeletal Age:

Newshell crabs were the most abundant category captured during both years comprising 66.7 and 64% of the catch in 1978 and 1979, respectively (Table 6). Oldshell crab were second in abundance with 31.7% oldshell in 1978 and 25.9% oldshell in 1979. Very oldshell crab were least abundant comprising 1.4 and 10.1% of the total catch in 1978 and 1979, respectively. The number of newshell, oldshell, and very oldshell crab captured by carapace width for each survey are depicted on Figures 45 and 46.

### Cohort Analysis:

Year class strengths by number and percent of male Tanner crab captured are presented in Table 5. Trends in year class abundance are not predictable from this data.

### Dutch Harbor

Surveys were not conducted in 1978 but were resumed in 1979. Research station locations are depicted on Figures 47 to 50. Forty-seven ocean stations and 68 bays stations were fished (Table 1). Total pot lifts were 721 for this survey. The station grid for 1979 essentially remained the same as previous surveys with the exception of seven ocean stations that were fished in varying directions. These stations were placed as prospecting stations in addition to the standard fishing grid and also varied in the number of pots fished per station and distance fished between pots. The depth range fished in 1979 was from 16 to 375 meters (9 - 205 fm). About 97% of all research fishing occurred in water shallower than 50 fathoms (Figure 51).

### Catch in Number of Crab:

Distribution patterns and catch figures for legal and sublegal crabs are presented on Figures 52 to 59. Total males captured in 1979 was 1,779 (Table 1). The next comparable year was 1977 where 4,045 male crab were caught (Donaldson and Hicks 1980). Only 199 female Tanners were caught, of which only 4 were juveniles. Appendix Table 3 presents the average catch per pot by station by year for all males caught on this survey.

### Size Composition:

The mean size of male Tanner crab in 1979 was 142 mm (Table 7). Crabs  $\geq 140$  mm comprised the most abundant size group captured or 54.6% of the total catch.

Table 5. Year class (cohort) strengths by number of male Tanner crab, *Chionoecetes bairdi*, captured and percent of male catch for years 1978 - 1979, Sand Point.

Cohort Group (mm)	1978		1979	
	No.	%	No.	%
4 ≤ 69	1	.00	1	.03
3 70 - 91	12	.2	15	.6
2 92 - 114	133	2.6	133	5.3
1 115 - 139	936	18.0	569	22.6
Newshe11 R 140 - 164	1,906	36.7	712	28.3
Oldshe11 & VOS PR I 140 - 164	907	17.5	351	13.9
PR 2 ≥ 165	1,297	24.9	737	29.3
Legal Total ≥ 140	4,110	79.2	1,800	71.6
Total crabs x̄ (mm)	5,192	153	2,518	151
Pot Lifts	355		330	



Table 6. Number of male Tanner crab, *Chionoecetes bairdi*, captured by cohort and exoskeletal age group, 1978 - 1979, Sand Point.

Cohort Group	1978			1979		
	NS	OS	VOS	NS	OS	VOS
Fours $\leq$ 69	1	0	0	1	0	0
Threes 70 - 91	7	4	1	7	5	4
Twos 94 - 114	36	86	7	42	47	45
Ones 115 - 139	439	469	24	238	228	104
Newshell Recruits 140 - 164	1,906	--	--	712	--	--
Post Recruits 1 Oldshell & VOS	--	875	36	--	272	79
Post Recruits 2 $\geq$ 165	1,077	213	7	614	101	22
Total	3,466	1,647	75	1,614	653	254
% of Total	66.7	31.7	1.4	64.0	25.9	10.1

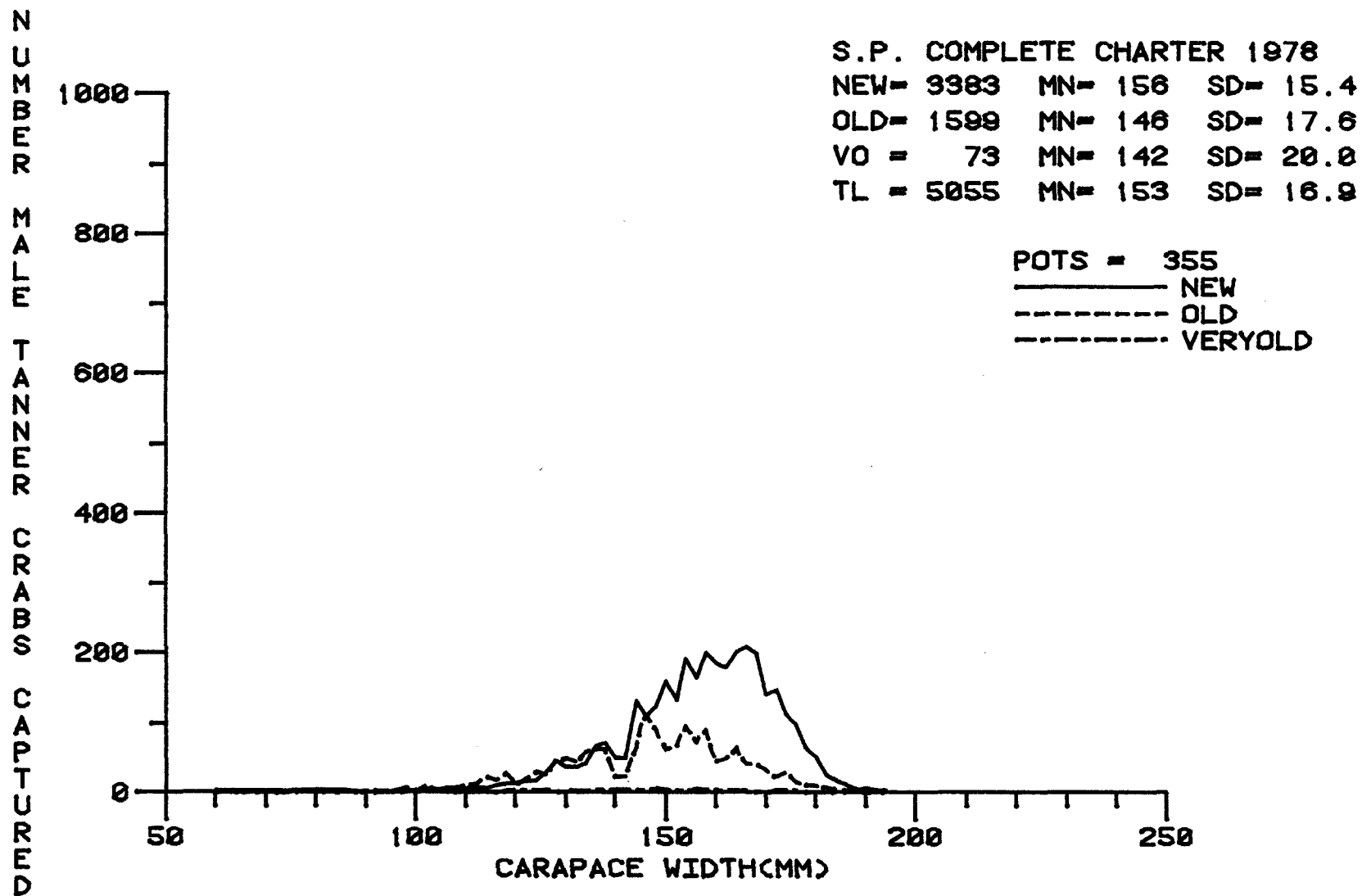


Figure 45. Carapace width frequency of new, old, and very old shell male Tanner crab, *Chionoecetes bairdi*, captured in the 1978 Sand Point survey

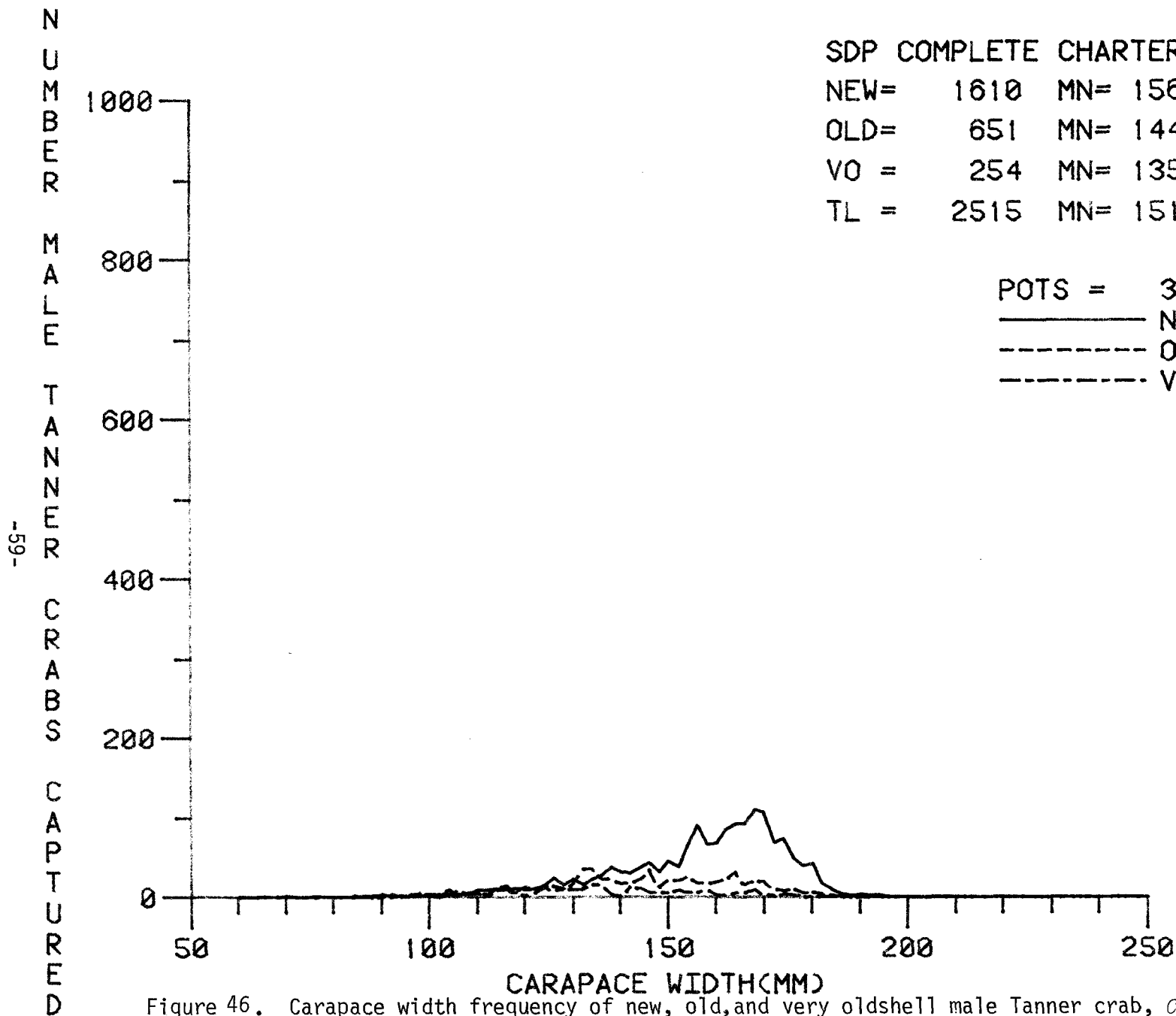


Figure 46. Carapace width frequency of new, old, and very old shell male Tanner crab, *Chionoecetes bairdi*, captured in the 1979 Sand Point survey

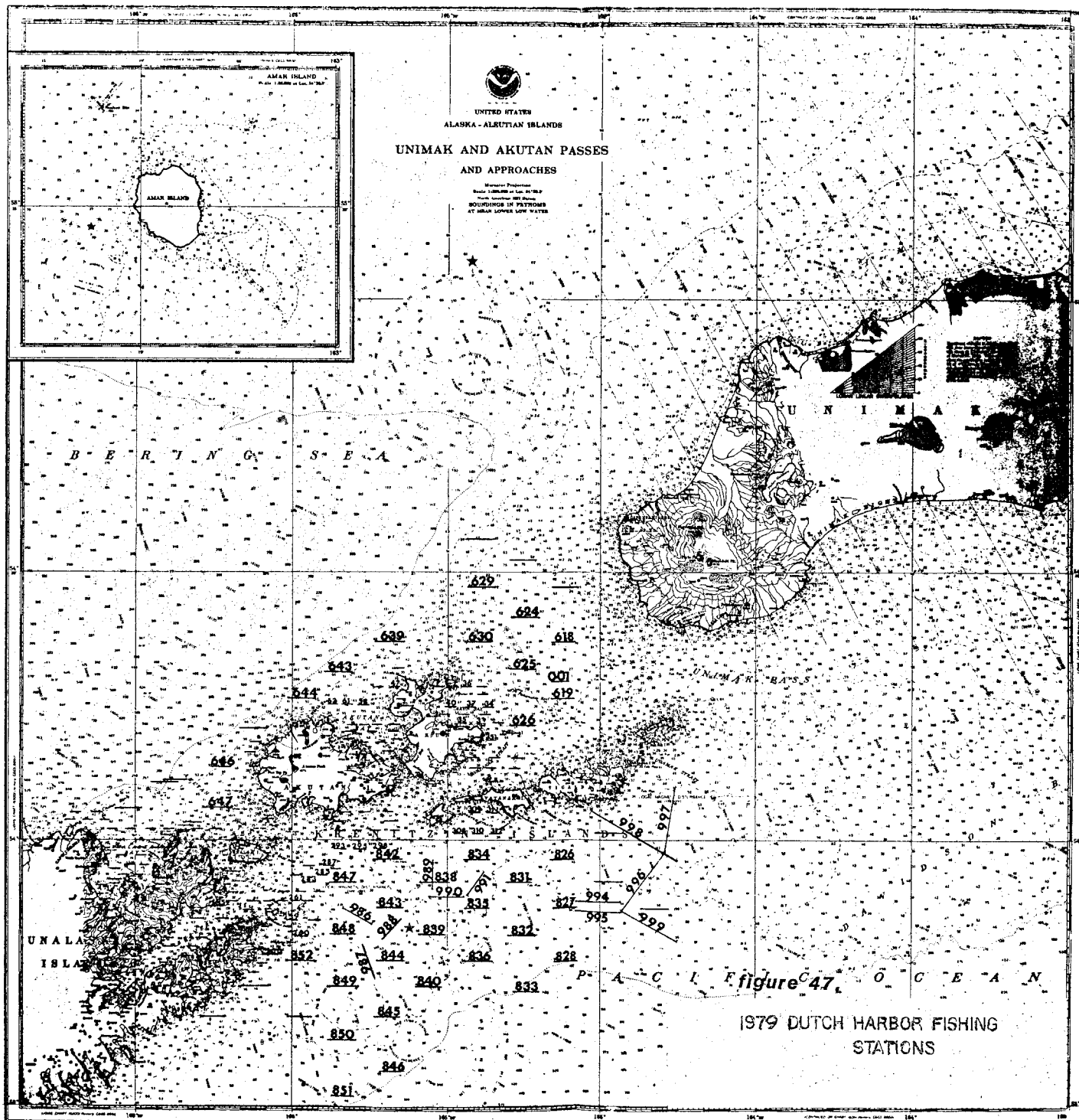
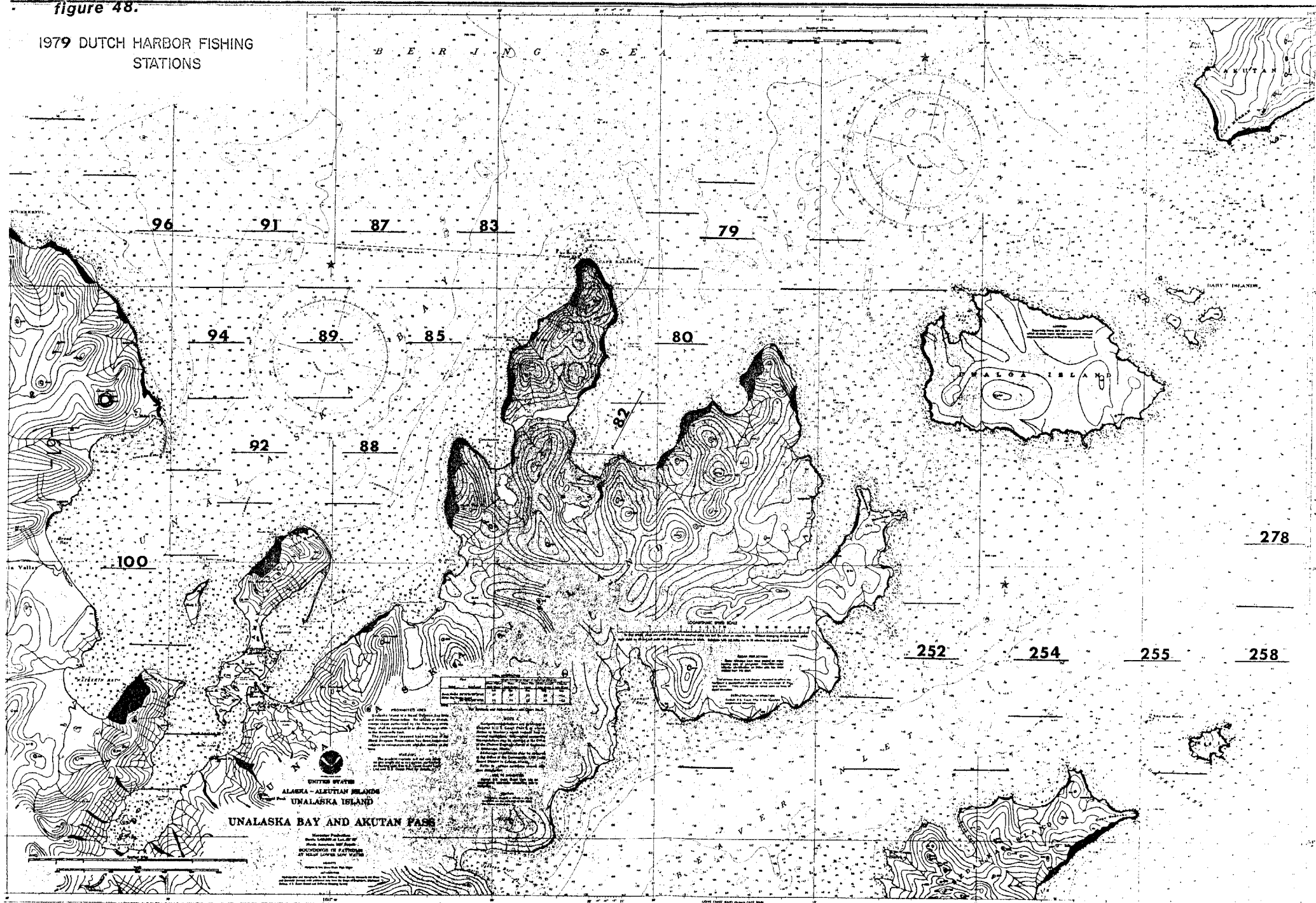


figure 48.

1979 DUTCH HARBOR FISHING  
STATIONS



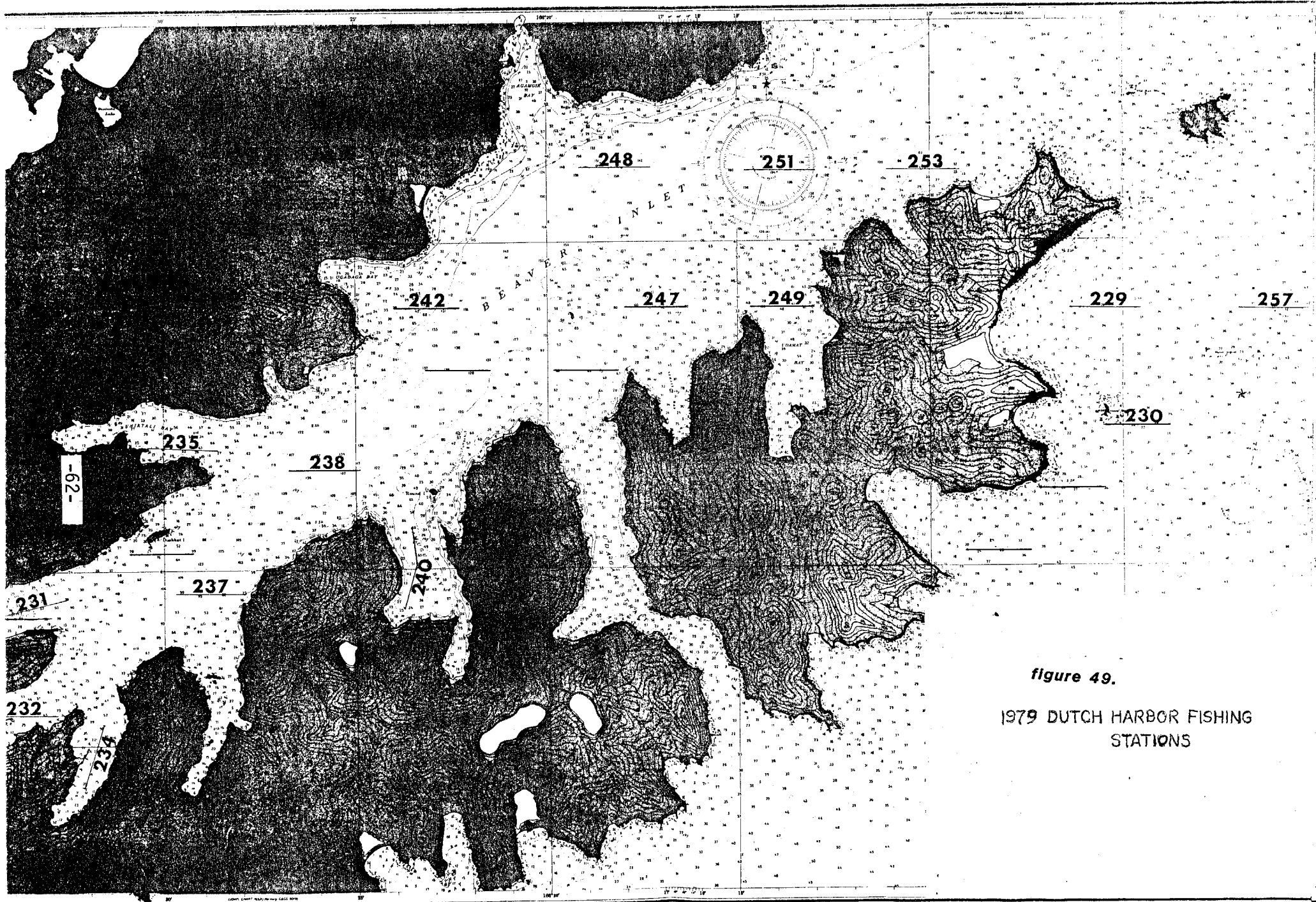


figure 49.

1979 DUTCH HARBOR FISHING  
STATIONS

SOUNDINGS IN FATHOMS

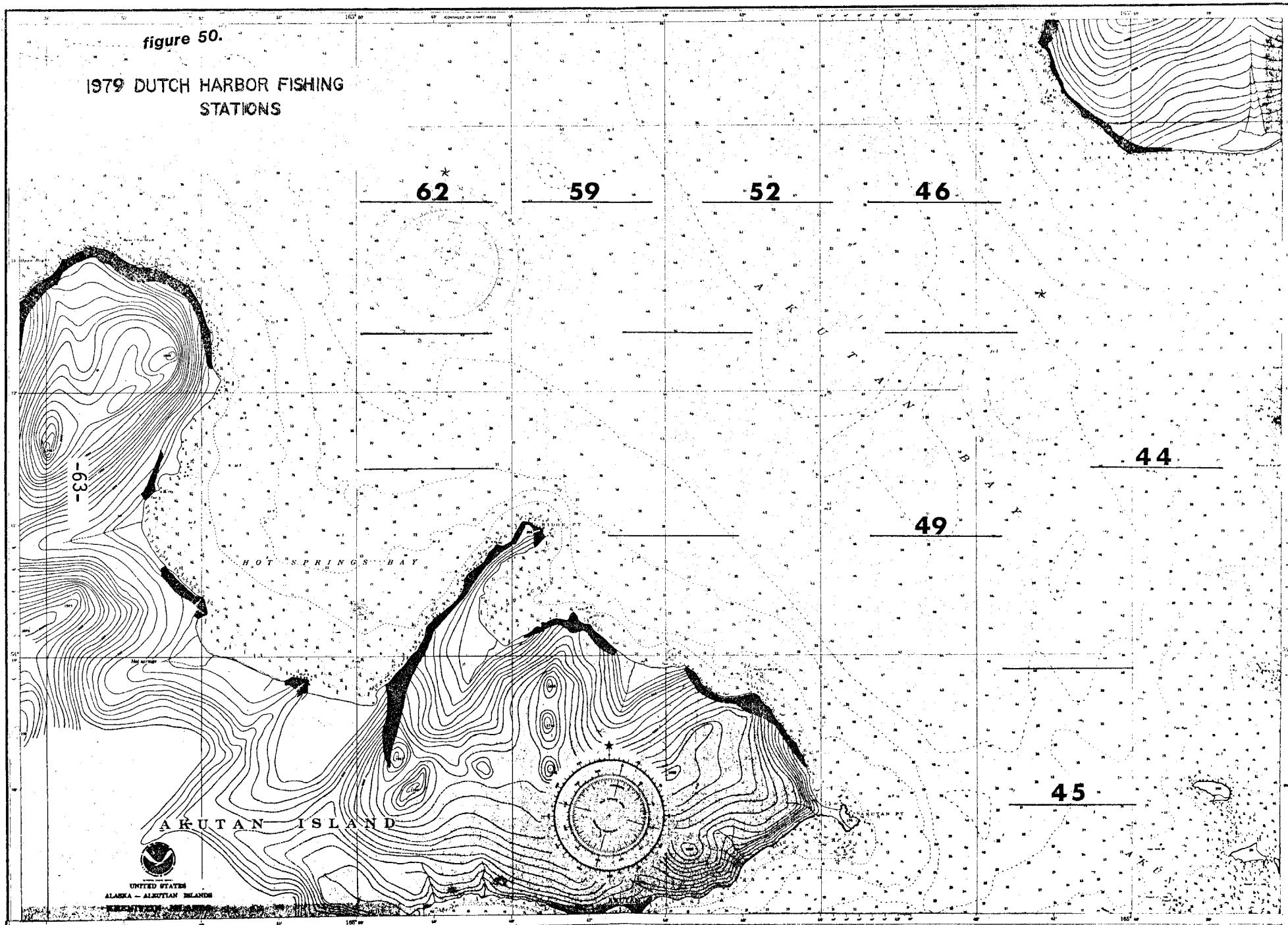
UPDATING SERVICE  
FOR THE CHARTS & MAPS OF THE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

Published at Washington, D.C.  
DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY



figure 50.

# 1979 DUTCH HARBOR FISHING STATIONS



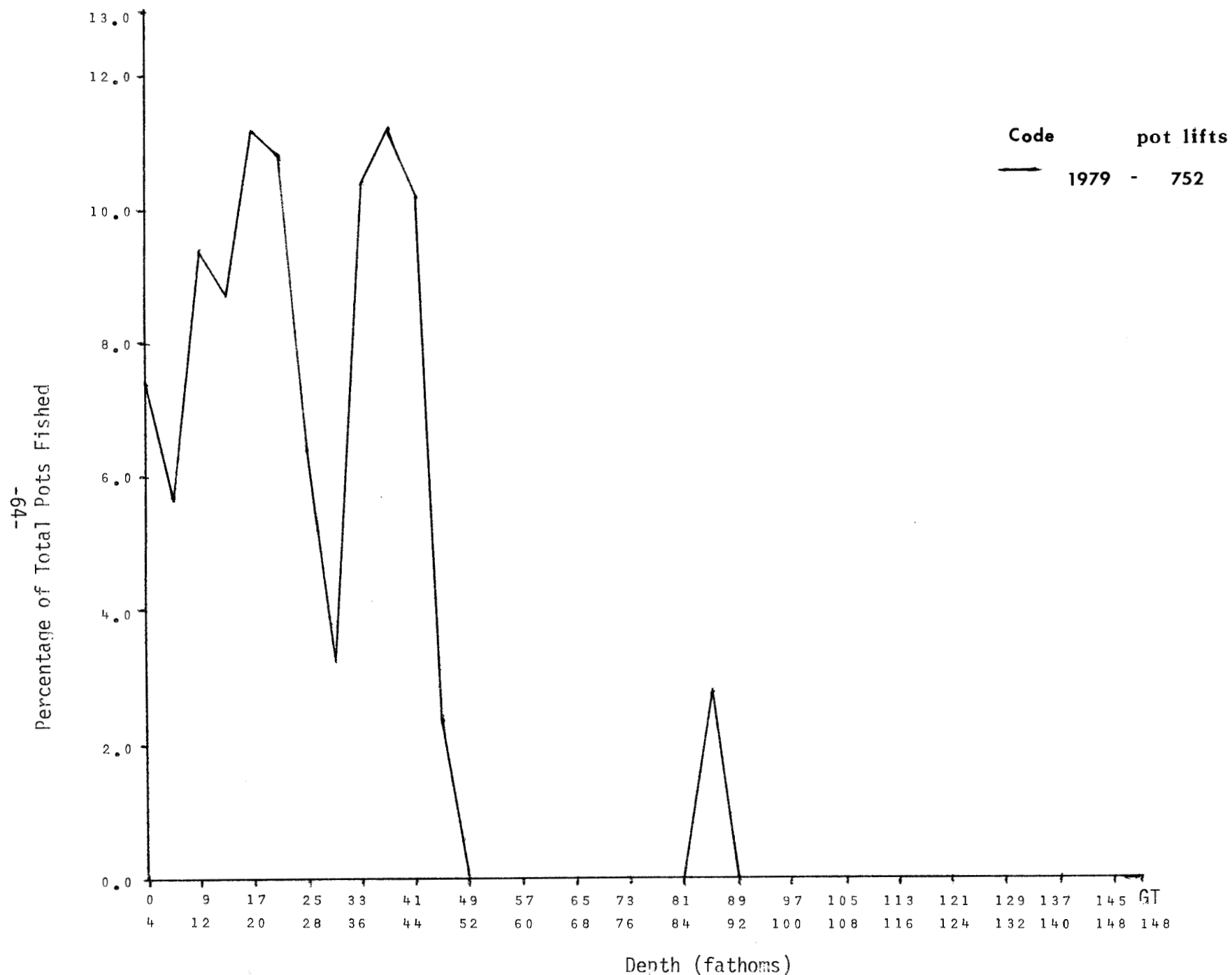
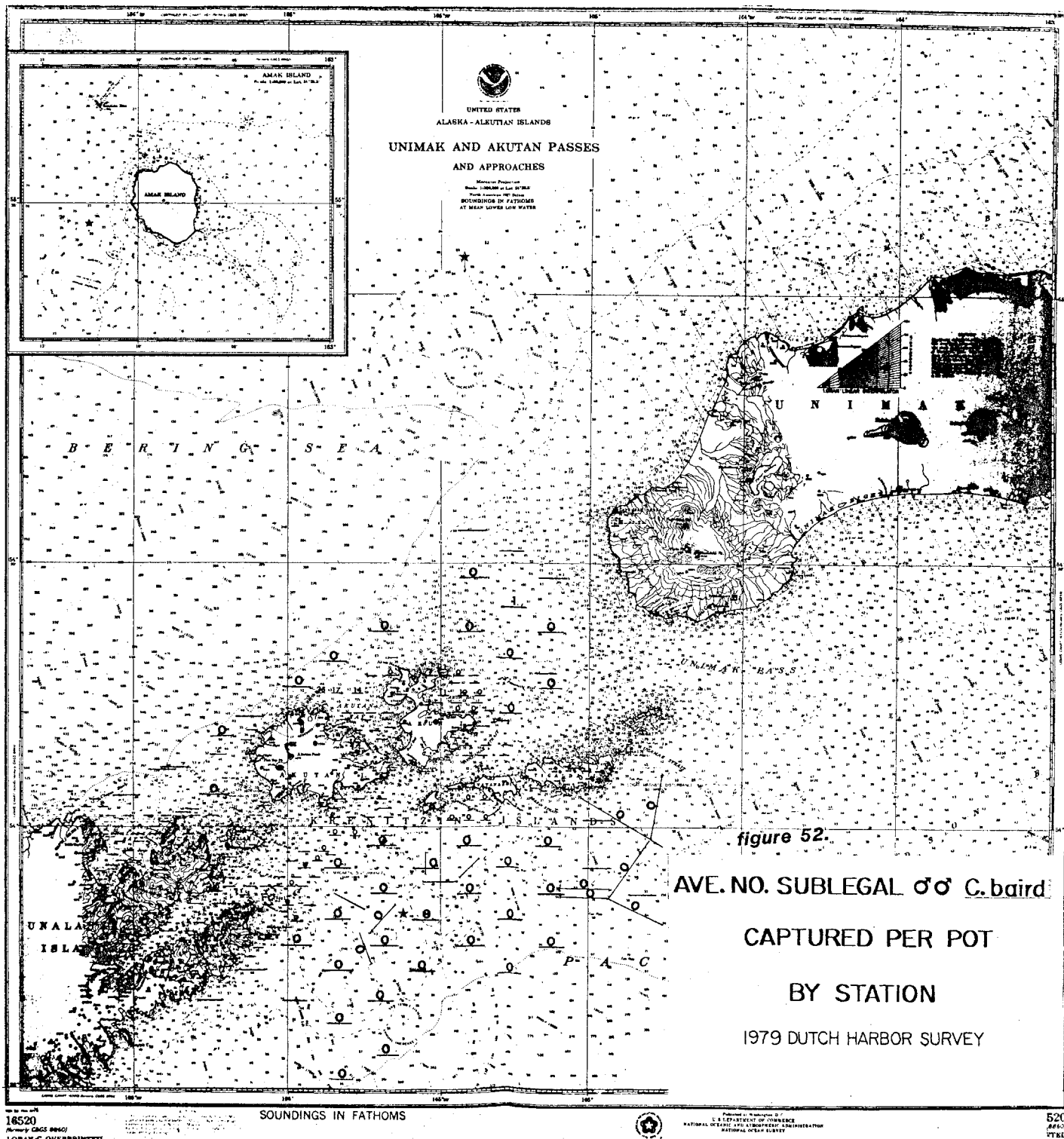


Figure 51 . Percentage of the total number of pots fished by depth interval 1979, Dutch Harbor.





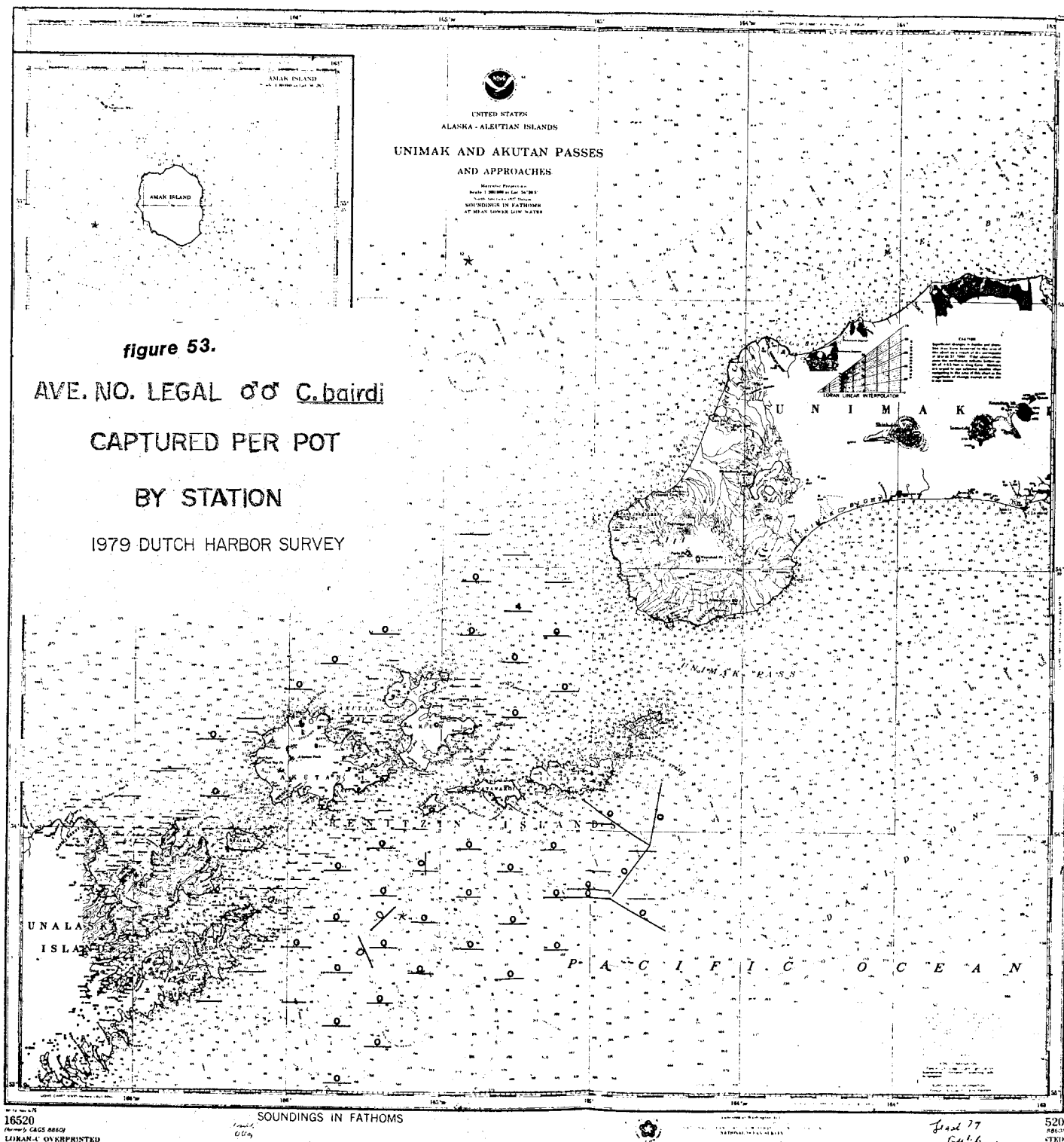


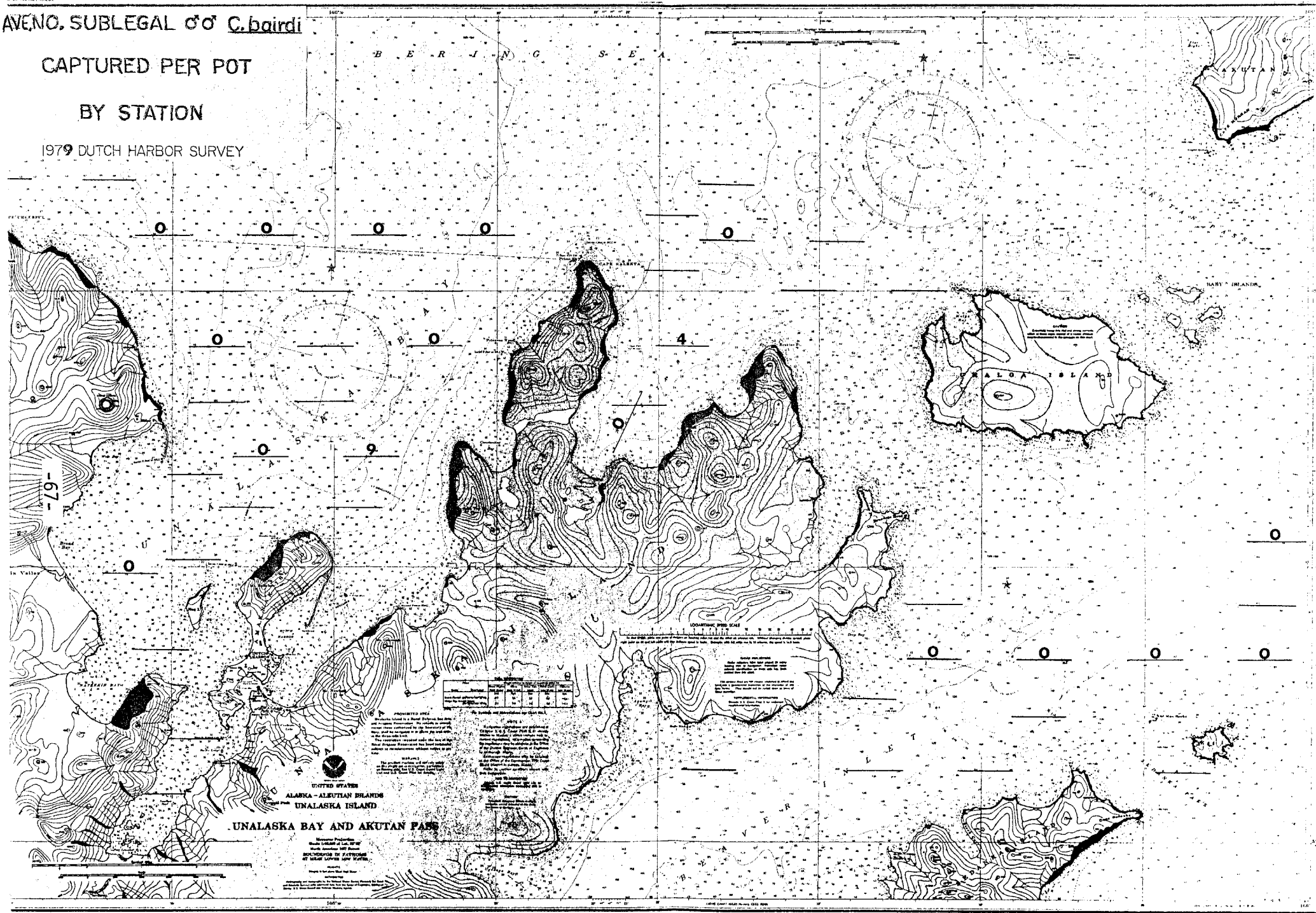
figure 54

AVENO. SUBLEGAL ♂♂ *C. bairdi*

CAPTURED PER POT

BY STATION

1979 DUTCH HARBOR SURVEY

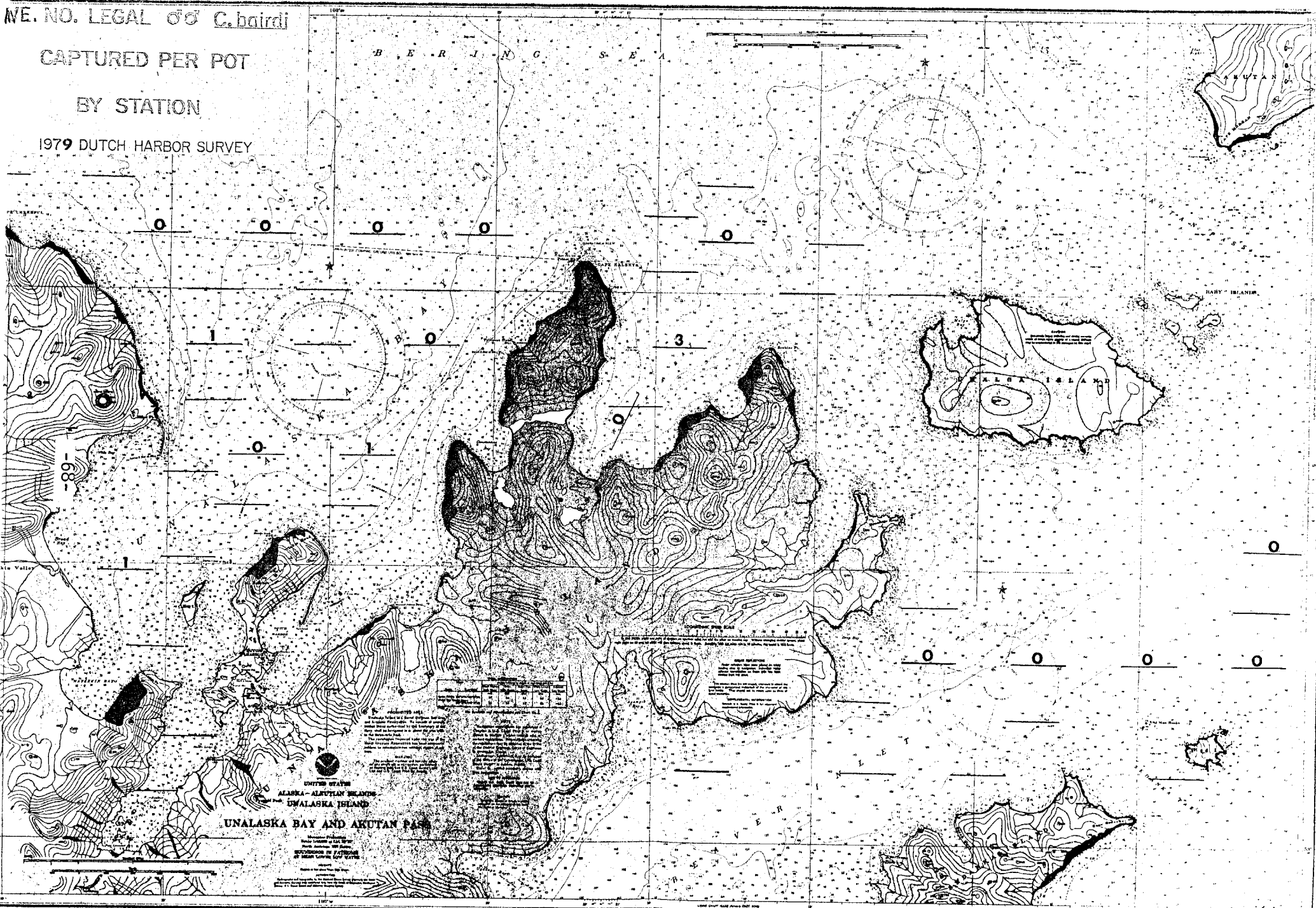


AVE. NO. LEGAL ०० C. bairdi

CAPTURED PER POT

BY STATION

1979 DUTCH HARBOR SURVEY



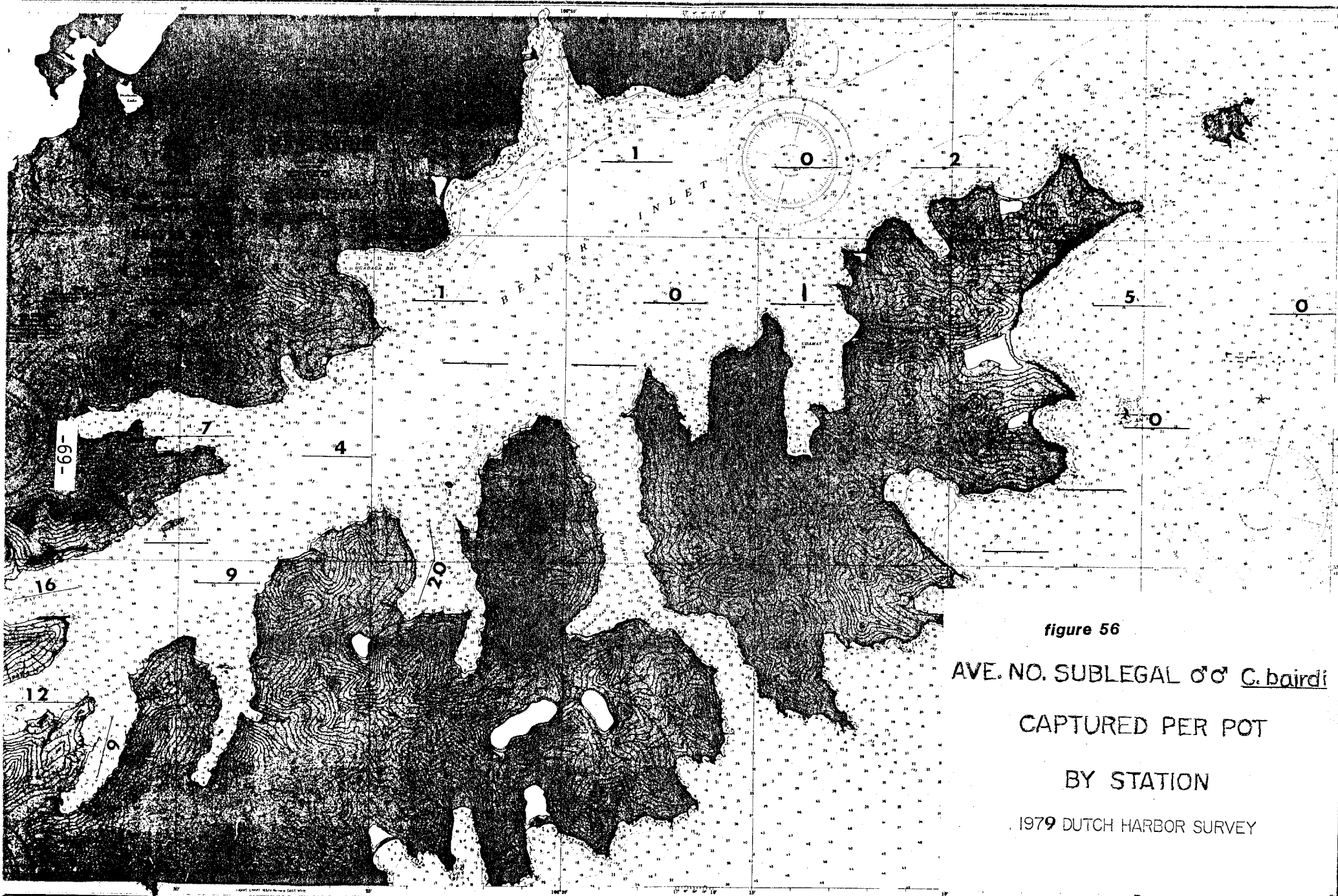


figure 56

AVE. NO. SUBLEGAL ♂♂ C. bairdi

CAPTURED PER POT

BY STATION

1979 DUTCH HARBOR SURVEY

SOUNDINGS IN FATHOMS

REPORTING SERVICE  
 "Fish and Game" a series of notices to mariners  
 for the U.S. Coast Guard, U.S. Navy, and U.S. Marine Corps  
 20042 San Jose

Published in Washington, D.C.  
 U.S. DEPARTMENT OF COMMERCE  
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
 NATIONAL OCEAN SURVEY







figure 53.

AVE. NO. SUBLEGAL ♂♂ C. bairdi

CAPTURED PER POT

BY STATION

1979 DUTCH HARBOR SURVEY

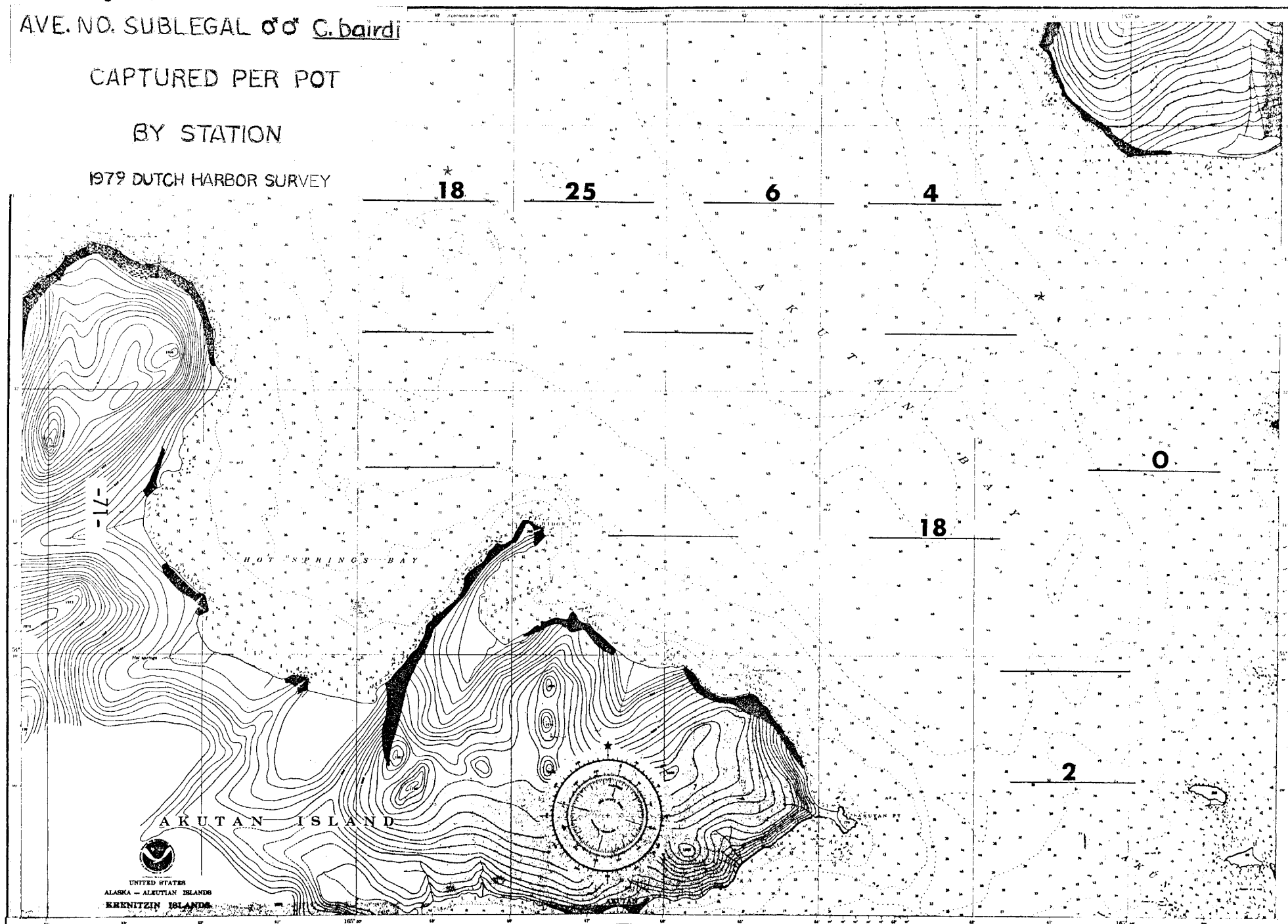


figure 59.

AVE. NO. LEGAL ♂♂ C. bairdi

CAPTURED PER POT

BY STATION

1979 DUTCH HARBOR SURVEY

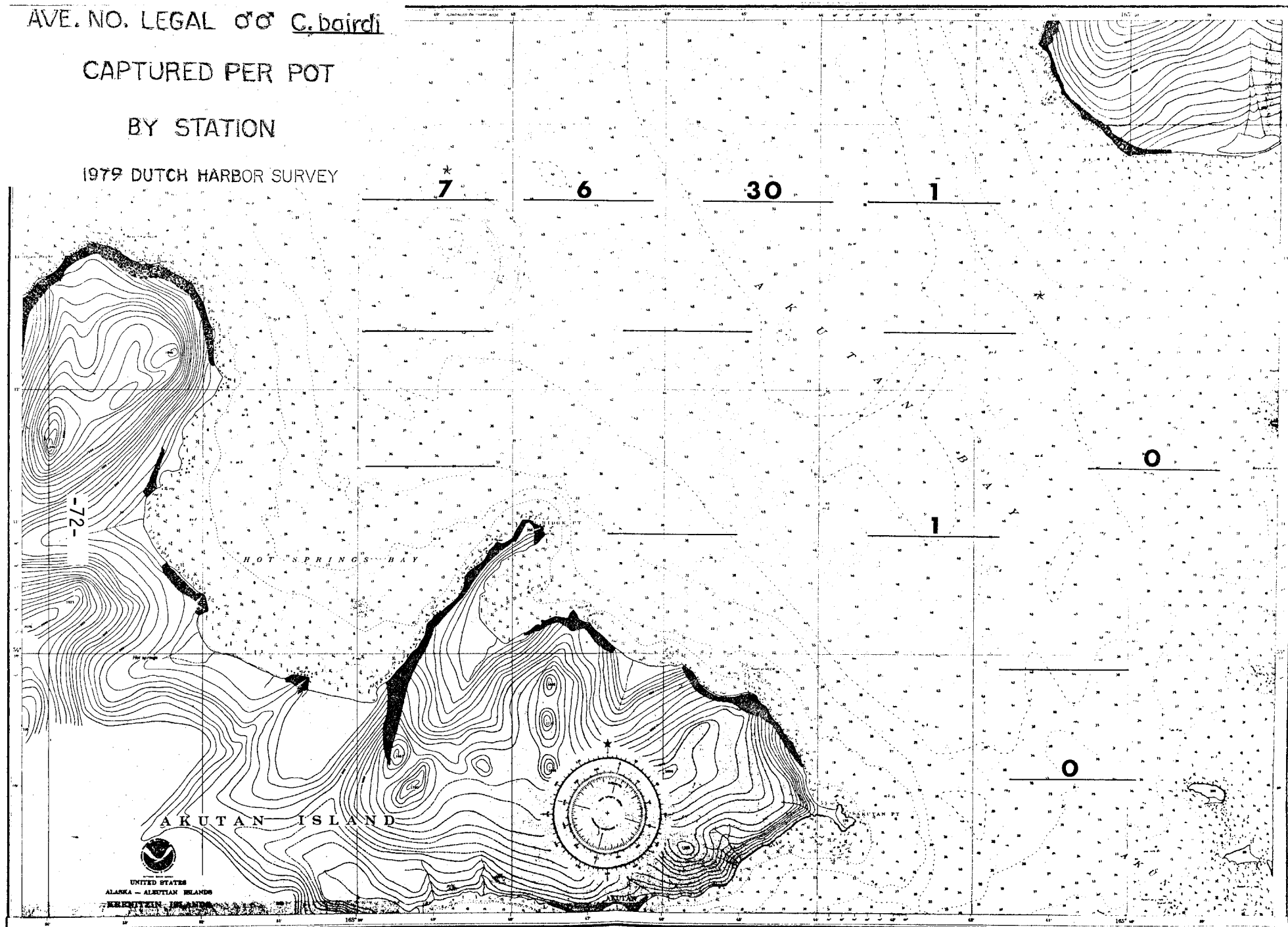




Table 7. Year class (cohort) strengths by number of male Tanner crab, *Chionoecetes bairdi*, captured and percent of male catch for years 1978 - 1979, Dutch Harbor.

Cohort Group (mm)	1978 <sup>1</sup>		1979	
	No.	%	No.	%
4 ≤ 69	-	-	2	.1
3 70 - 91	-	-	8	.4
2 92 - 114	-	-	82	4.6
1 115 - 139	-	-	713	40.1
Newshe11 R 140 - 164	-	-	388	21.8
Oldshell & VOS PR 1 140 - 164	-	-	436	24.5
PR 2 ≥ 165	-	-	146	8.2
Legal Total ≥ 140	-	-	972	54.6
$\bar{x}$ Total crabs (mm)	-	-	1,779 142	
Pot Lifts	-	-	721	

<sup>1</sup> Dutch Harbor not fished in 1978.

#### Exoskeletal Age:

Oldshell crabs were more abundant than newshell or very oldshell crabs in 1979 (Table 8). Oldshell crabs comprised 42.5% of the catch while newshell and very oldshell crabs comprised 39.1 and 18.4%, respectively. The number of newshell, oldshell, and very oldshell crab by carapace width captured for the survey are depicted on Figure 60.

#### Cohort Analysis:

Year class strengths by number and percent of male Tanner crab captured are presented in Table 7. Trends in year class abundance are not predictable from this data.

Table 8. Number of male Tanner crab, *Chionoecetes bairdi*, captured by cohort and exoskeletal age group, 1978 - 1979, Dutch Harbor.

Cohort Group	1978			1979		
	NS	OS	VOS	NS	OS	VOS
Fours $\leq$ 69	-	-	-	2	0	0
Threes 70 - 91	-	-	-	7	0	1
Twos 94 - 114	-	-	-	29	34	20
Ones 115 - 139	-	-	-	173	404	136
Newshell Recruits 140 - 164	-	-	-	388	-	-
Post recruits 1 Oldshell & VOS	-	-	-	-	285	150
Post recruits 2 $\geq$ 165	-	-	-	97	35	14
Total	-	-	-	696	757	321
% of Total	-	-	-	39.1	42.5	18.4

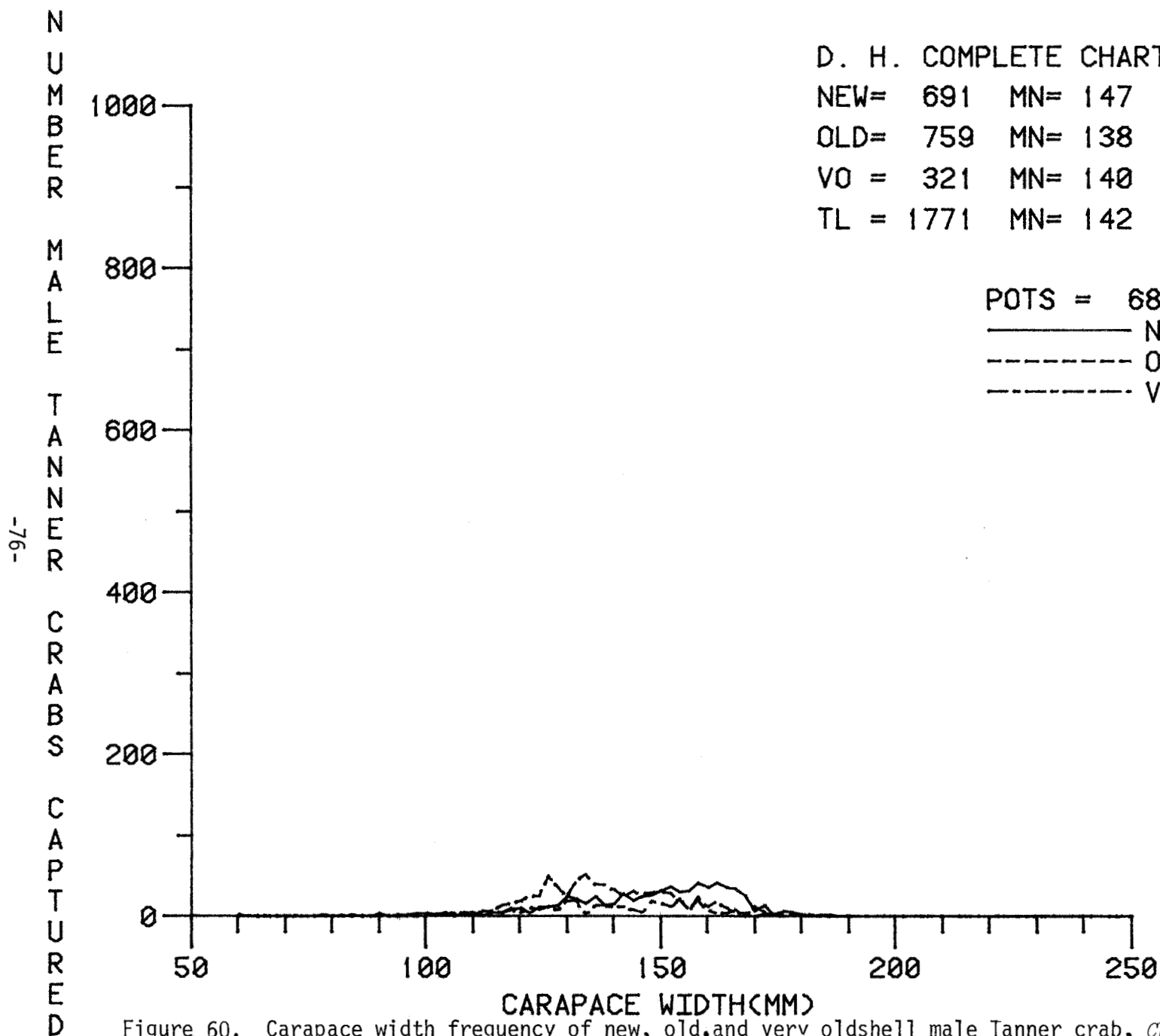


Figure 60. Carapace width frequency of new, old, and very old shell male Tanner crab, *Chionoecetes bairdi*, captured on the 1979 Dutch Harbor survey

## LITERATURE CITED

- Donaldson, W.E. and D.M. Hicks. 1980. Explorations for the Tanner crab, *Chionoecetes bairdi* off the coasts of Kodiak Island, the Alaska Peninsula, and Aleutian Islands, 1973-1977. Alaska Dept. of Fish and Game Technical Data Report No. 45. 254 p.
- Karinen, John. 1969. Preliminary evaluation of Bering Sea Tanner crab stocks. In minutes of the Second Alaskan Shellfish Conference, Alaska Dept. of Fish and Game Info. Leaflet No. 135. Pp. 97-101.
- McMullen, John C. and Harvey T. Yoshihara. 1970. The king and Tanner crab fishery on the Alaskan Peninsula-Aleutian Islands management area, 1969-1970. Alaska Dept. Fish and Game Info. Leaflet No. 148. 29 p.
- Rothschild, B.J., G. Powell, J. Joseph, N. Abramson, J. Buss, and P. Eldridge. 1970. A survey of the population dynamics of king crab in Alaska with particular reference to the Kodiak area. Alaska Dept. of Fish and Game Info. Leaflet No. 147. 149 p.

## APPENDICES

Appendix Table 1. Bay and ocean station collection and catch data for male Tanner crab (*Chionoecetes bairdi*), 1978-1979 Population Index Studies, Kodiak.

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
<u>Kupreanof-Viekoda</u>					
41	- 7/13/79	- 46-61	- 41.4	- 33.9	- 75.3
42	- 7/13/79	- 15-20	- 0	- 0	- 0
43	- 7/13/79	- 62-72	- 20.3	- 12.7	- 33.0
44	- 7/13/79	- 17-38	- 1.3	- 0	- 1.3
45	- 7/14/79	- 44-64	- 11.0	- 1.2	- 12.2
46	- 7/14/79	- 42-58	- 0	- 0	- 0
47	- 7/14/79	- 29-42	- 1.2	- 0	- 1.2
48	- 8/28/79	- 36-92	- 1.1	- 10.6	- 11.7
49	- 7/13/79	- 37-44	- 3.9	- 5.2	- 9.1

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
50	- 7/13/79	- 38-51	- 1.3	- 0	- 1.3
51	- 7/14/79	- 15-75	- 3.9	- 1.3	- 5.2
52	- 7/14/79	- 75-121	- 0	- 0	- 0
53	- 7/13/79	- 16-23	- 2.6	- 1.3	- 3.9
54	- 7/13/79	- 14-44	- 0	- 0	- 0
55	- 7/13/79	- 26-33	- 0	- 0	- 0
56	- 7/13/79	- 13-18	- 0	- 0	- 0
57	- 7/14/79	- 36-84	- 2.8	- 18.8	- 21.6
58	- 7/14/79	- 67-75	- 22.6	- 51.0	- 73.6



Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	> 140	Total
59	- 7/14/79	- 42-50	- 13.1	- 11.5	- 24.6
60	- 7/14/79	- 33-37	- 13.9	- 1.7	- 15.6
<u>Marmot-Kizhuyak (Inner)</u>					
61	- 7/10/79	- 17-24	- 24.6	- 1.8	- 26.4
62	- 7/10/79	- 27-63	- 14.9	- 29.8	- 44.7
63	- 7/10/79	- 21-60	- 26.6	- 6.2	- 32.8
64	- 7/10/79	- 12-27	- 0	- 0	- 0
66	- 7/10/79	- 23-60	- 0	- 0	- 0
67	- 7/11/79	- 15-30	- 1.0	- 0	- 1.0
68	- 7/11/79	- 60-66	- 18.3	- 1.0	- 19.3

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	> 140	Total
69	- 7/11/79	- 26-45	- 0	- 0	- 0
70	- 7/11/79	- 72-75	- 4.2	- 12.5	- 16.7
71	- 7/12/79	- 42-66	- 1.2	- 2.5	- 3.7
72	- 7/12/79	- 56-68	- 12.0	- 32.5	- 44.5
73	- 7/12/79	- 35-50	- 7.0	- 8.1	- 15.1
74	- 7/12/79	- 36-72	- 0	- 0	- 0
75	- 7/12/79	- 49-52	- 9.5	- 4.1	- 13.6
76	- 7/12/79	- 14-20	- 0	- 0	- 0
77	- 7/12/79	- 30-50	- 8.8	- 16.0	- 24.8

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		Total
			< 140	≥ 140	
78	- 7/12/78	- 8-13	- 1.7	- 0	- 1.7
79	- 7/12/79	- 26-26	- 0	- 5.2	- 5.2
80	- 7/12/79	- 17-20	- 0	- 0	- 0
<u>Chiniak</u>					
81	- 7/2/79	- 25-30	- 0	- 0	- 0
82	- 7/2/79	- 16-25	- 0	- 0	- 0
83	- 7/2/79	- 20-33	- 0	- 0	- 0
84	- 7/2/79	- 16-18	- 0	- 0	- 0
85	- 7/2/79	- 19-30	- 0	- 0	- 0
86	- 7/2/79	- 12-20	- 0	- 0	- 0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	> 140	Total
87	- 7/1/79	- 14-20	- 8.0	- 0	- 8.0
88	- 6/30/79	- 14-22	- 0	- 0	- 0
89	- 6/30/79	- 120-135	- 6.8	- 55.1	- 61.9
90	- 7/1/79	- 17-23	- 37.4	- 11.3	- 48.7
91	- 7/1/79	- 51-70	- 26.0	- 40.2	- 66.2
92	- 7/1/79	- 84-97	- 18.3	- 101.9	- 120.2
93	- 6/30/79	- 83-88	- 19.4	- 99.8	- 119.2
94	- 7/1/79	- 9-11	- 15.9	- 12.4	- 28.3
95	- 7/1/79	- 68-75	- 4.2	- 30.7	- 34.9

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
98	- 7/1/79	- 10-44	- 6.1	- 11.0	- 17.1
99	- 7/1/79	- 17-19	- 0	- 0	- 0
100	- 7/1/79	- 10-22	- 4.7	- 1.2	- 5.9
<u>Sitkalidak</u>					
101	- 6/22/79	- 15-28	- 3.5	- 0	- 3.5
102	- 6/22/79	- 51-66	- 0	- 0	- 0
103	- 6/22/79	- 13-32	- 0	- 0	- 0
104	- 6/22/79	- 67-80	- 1.5	- 1.5	- 3.0
105	- 6/22/79	- 23-34	- 0	- 0	- 0
106	- 6/22/79	- 41-61	- 0	- 0	- 0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
107	- 6/22/79	- 47-55	- 1.2	- 2.4	- 3.6
108	- 6/22/79	- 32-53	- 3.6	- 2.4	- 6.0
109	- 6/22/79	- 67-72	- 0	- 1.1	- 1.1
110	- 6/22/79	- 19-50	- 0	- 0	- 0
111	- 6/23/79	- 44-45	- 1.2	- 0	- 1.2
112	- 6/23/79	- 58-65	- 6.2	- 8.6	- 14.8
113	- 6/23/79	- 25-60	- 5.1	- 1.3	- 6.4
114	- 6/23/79	- 68-69	- 1.2	- 9.4	- 10.6
115	- 6/23/79	- 49-58	- 0	- 0	- 0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
116	- 6/23/79	- 20-21	- 0	- 0	- 0
118	- 6/23/79	- 32-72	- 0	- 0	- 0
119	- 6/23/79	- 73-73	- 0	- 5.4	- 5.4
120	- 6/23/79	- 31-66	- 3.3	- 8.8	- 12.1
<u>Alitak</u>					
121	- 8/8/79	- 68-69	- 3.7	- 32.1	- 35.8
122	- 8/8/79	- 15-92	- 0	- 14.2	- 14.2
123	- 8/8/79	- 53-83	- 1.1	- 3.4	- 4.5
124	- 8/8/79	- 62-68	- 1.1	- 8.6	- 9.7
125	- 8/8/79	- 70-73	- 2.1	- 11.2	- 13.3

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
126	- 8/8/79	- 12-26	- 0	- 0	- 0
127	- 8/8/79	- 12-64	- 1.0	- 11.6	- 12.6
128	- 8/8/79	- 10-37	- 0	- 8.9	- 8.9
129	- 8/8/79	- 43-45	- 0	- 7.4	- 7.4
130	- 8/6/79	- 35-38	- 0	- 0	- 0
131	- 8/6/79	- 31-35	- 0	- 9.1	- 9.1
132	- 8/6/79	- 29-32	- 15.4	- 25.4	- 40.8
133	- 8/6/79	- 29-30	- 2.2	- 10.8	- 13.0
134	- 8/6/79	- 8-21	- 1.2	- 1.2	- 2.4



Appendix Table 1. Kodiak (continued)

Station.	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		Total
			< 140	≥ 140	
135	- 8/6/79	- 25-27	- 17.8	- 11.5	- 29.3
136	- 8/6/79	- 24-27	- 4.0	- 4.0	- 8.0
137	- 8/6/79	- 15-17	- 0	- 0	- 0
138	- 8/6/79	- 20-21	- 1.3	- 0	- 1.3
139	- 8/6/79	- 30-46	- 1.5	- 0	- 1.5
<u>Marmot (Outer)</u>					
142	- 7/10/79	- 52-96	- 8.2	- 1.4	- 9.6
143	- 7/10/79	- 105-111	- 12.0	- 19.9	- 31.9
144	- 7/10/79	- 105-112	- 3.5	- 7.0	- 10.5
145	- 7/10/79	- 18-90	- 0	- 0	- 0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
146	- 7/11/79	- 105-106	- 3.1	- 30.8	- 33.9
147	- 7/11/79	- 26-89	- 1.1	- 2.2	- 3.3
148	- 7/11/79	- 75-83	- 26.2	- 3.4	- 29.6
149	- 7/11/79	- 80-96	- 2.0	- 43.4	- 45.4
<u>Kiliuda</u>					
150	- 6/20/79	- 29-35	- 21.8	- 37.0	- 58.8
151	- 6/20/79	- 44-51	- 4.7	- 23.4	- 28.1
152	- 6/20/79	- 25-42	- 5.9	- 0	- 5.9
153	- 6/20/79	- 29-48	- 1.4	- 0	- 1.4
154	- 6/20/79	- 27-41	- 4.0	- 1.4	- 5.4

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
155	- 6/20/79	- 59-61	- 2.6	- 13.9	- 16.5
156	- 6/20/79	- 63-72	- 3.4	- 16.4	- 19.8
157	- 6/20/79	- 16-24	- 0	- 0	- 0
158	- 6/20/79	- 18-53	- 4.2	- 10.7	- 14.9
159	- 6/20/79	- 68-69	- 6.2	- 5.1	- 11.3
161	- 7/11/79	- 22-69	- 7.0	- 11.9	- 18.9
<u>Ugak</u>					
173	- 6/25/79	- 30-37	- 10.9	- 88.1	- 99.0
174	- 6/25/79	- 33-36	- 22.6	- 62.6	- 85.2
175	- 6/25/79	- 12-14	- 0	- 0	- 0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
176	- 6/25/79	- 48-50	- 27.9	- 16.9	- 44.8
177	- 6/25/79	- 12-15	- 0	- 0	- 0
178	- 6/25/79	- 53-54	- 31.3	- 48.9	- 80.2
179	- 6/25/79	- 51-53	- 28.5	- 60.8	- 89.3
182	- 5/25/79	- 21-25	- 10.4	- 0	- 10.4
184	- 6/25/79	- 16-18	- 0	- 0	- 0
187	- 6/25/79	- 16-17	- 0	- 0	- 0
<u>Uganik</u>					
191	- 8/29/79	- 140-158	- 0	- 0.6	- 0.6
192	- 8/29/79	- 95-117	- 2.4	- 21.1	- 23.5

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
194	- 8/29/79	- 53-94	- 1.3	- 8.0	- 9.3
195	- 8/29/79	- 93-96	- 9.7	- 9.8	- 19.5
196	- 8/29/79	- 37-80	- 15.7	- 31.5	- 47.2
198	- 8/29/79	- 55-96	- 10.8	- 12.3	- 23.1
200	- 8/29/79	- 19-56	- 4.7	- 2.3	- 7.0
202	- 8/29/79	- 80-94	- 6.4	- 11.3	- 17.7
206	- 8/29/79	- 67-72	- 5.1	- 37.9	- 43.0
209	- 8/29/79	- 44-60	- 18.2	- 34.7	- 52.9
<u>Raspberry Straits</u>					
242	- 8/30/79	- 34-51	- 68.2	- 4.1	- 72.3

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
246	- 8/30/79	- 48-63	- 57.1	- 130.2	- 187.3
250	- 8/30/79	- 33-59	- 17.7	- 227.3	- 245.0
<u>Malina</u>					
254	- 8/31/79	- 30-58	- 1.5	- 0	- 1.5
260	- 8/31/79	- 50-75	- 42.3	- 24.8	- 67.1
<u>Paranamof</u>					
257	- 9/5/79	- 8-16	- 0	- 0	- 0
262	- 9/2/79	- 30-70	- 3.6	- 18.0	- 21.6
263	- 9/2/79	- 56-60	- 7.9	- 10.1	- 18.0
265	- 9/2/79	- 29-42	- 0	- 0	- 0
269	- 9/2/79	- 27-35	- 0	- 0	- 0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
<u>Ocean Stations</u>					
356	- 7/16/79	- 81-91	- 30.1	- 8.4	- 38.5
357	- 7/16/79	- 72-78	- 52.5	- 61.7	- 114.2
365	- 7/16/79	- 47-61	- 3.6	- 2.4	- 6.0
372	- 7/15/79	- 62-75	- 0	- 0	- 0
380	- 7/15/79	- 60-64	- 1.8	- 0	- 1.8
386	- 7/15/79	- 39-56	- 0	- 0	- 0
400	- 7/6/79	- 78-93	- 42.7	- 8.9	- 51.6
407	- 7/8/79	- 62-82	- 3.9	- 0	- 3.9
408	- 7/6/79	- 71-75	- 13.5	- 12.5	- 26.4

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			≤ 140	≥ 140	Total
414	- 7/8/79	- 67-74	- 141.3	- 47.0	- 188.3
415	- 7/6/79	- 75-82	- 30.4	- 10.8	- 41.2
417	- 7/5/79	- 67-77	- 45.5	- 23.4	- 68.9
422	- 7/9/79	- 68-84	- 235.1	- 336.7	- 571.8
423	- 7/8/79	- 70-81	- 120.9	- 59.2	- 180.1
426	- 7/5/79	- 72-81	- 13.3	- 0	- 13.3
430	- 7/3/79	- 84-92	- 48.2	- 143.9	- 192.1
431	- 7/9/79	- 80-87	- 91.6	- 116.5	- 208.1
434	- 7/5/79	- 75-78	- 124.4	- 151.7	- 276.1



Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
437	- 7/3/79	- 93-98	- 22.2	- 54.1	- 76.3
438	- 7/9/79	- 76-86	- 72.8	- 250.7	- 323.5
445	- 7/3/79	- 105-112	- 10.0	- 33.8	- 43.8
457	- 6/30/79	- 42-52	- 1.1	- 0	- 1.1
463	- 6/30/79	- 18-67	- 7.2	- 33.7	- 40.9
469	- 6/29/79	- 54-69	- 17.7	- 80.6	- 98.3
475	- 6/29/79	- 15-63	- 50.6	- 37.9	- 88.5
476	- 6/29/79	- 50-64	- 34.3	- 12.9	- 47.2
481	- 6/28/79	- 53-57	- 78.1	- 32.2	- 111.0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
486	- 6/28/79	- 59-87	- 72.7	- 71.8	- 144.5
487	- 6/27/79	- 42-54	- 54.6	- 17.6	- 72.2
491	- 6/28/79	- 27-38	- 7.9	- 1.3	- 9.2
492	- 6/27/79	- 84-89	- 102.4	- 38.0	- 140.4
497	- 6/28/79	- 40-51	- 6.8	- 0	- 6.8
503	- 6/26/79	- 91-95	- 76.6	- 137.4	- 214.0
506	- 6/24/79	- 39-49	- 44.9	- 72.5	- 117.4
509	- 6/26/79	- 40-74	- 55.1	- 1.7	- 56.8
515	- 6/26/79	- 73-78	- 241.7	- 58.7	- 300.4

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
517	- 6/24/79	- 43-55	- 46.3	- 341.3	- 387.6
518	- 6/23/79	- 42-44	- 20.2	- 2.6	- 22.8
528	- 6/24/79	- 51-75	- 97.9	- 45.2	- 143.1
529	- 6/23/79	- 44-45	- 37.1	- 55.5	- 92.6
532	- 6/22/79	- 50-91	- 9.6	- 1.2	- 10.8
533	- 6/23/79	- 40-75	- 22.2	- 14.1	- 36.3
536	- 6/22/79	- 79-84	- 64.2	- 44.3	- 108.5
537	- 6/22/79	- 67-78	- 79.1	- 26.7	- 105.8
541	- 6/21/79	- 78-81	- 33.3	- 1.5	- 34.8
545	- 6/21/79	- 72-81	- 43.6	- 29.9	- 73.5

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
546	- 6/21/79	- 69-78	- 319.2	- 183.4	- 502.6
585	7/20/78 6/20/79	20-44 25-33	0 0	0 0	0 0
586	7/18/78 6/19/79	94-110 66-78	1.3 35.6	8.3 165.0	9.6 200.6
588	- 6/20/79	- 30-42	- 22.6	- 127.4	- 150.0
589	7/19/78 -	42-56 -	0 -	0 -	0 -
592	7/20/78 6/21/79	33-82 80-85	0 14.5	0 5.6	0 20.1
593	7/18/78 6/19/79	54-76 82-83	2.2 12.2	1.9 131.5	4.1 143.7
596	7/21/78 6/21/79	66-74 33-57	13.7 60.0	4.3 20.9	18.0 80.9
597	7/19/78 6/25/79	50-84 50-78	0.5 1.1	0.8 4.3	1.3 5.4

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
598	7/14/78	81-82	1.7	7.4	9.1
	6/19/79	76-86	8.3	152.5	160.8
600	7/21/78	28-40	0	0	0
	6/27/79	37-42	11.8	19.1	30.9
601	7/20/78	44-60	0	0	0
	6/25/79	64-105	0	17.3	17.3
602	7/19/78	80-80	0.9	2.8	3.7
	6/25/79	78-79	7.2	41.3	48.5
606	7/21/78	38-50	4.8	18.6	23.4
	6/27/79	40-59	2.4	1.3	3.7
607	7/16/78	63-75	1.8	4.1	5.9
	6/26/79	57-73	69.6	382.5	451.1
608	7/14/78	68-82	1.5	2.7	4.2
	6/20/79	52-53	45.0	23.4	68.4
610	7/16/78	56-80	0.8	1.9	2.7
	6/27/79	73-79	1.1	4.2	5.3

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
611	7/15/78	50-54	1.2	0.8	2.0
	6/26/79	48-50	53.8	25.7	79.5
616	7/16/78	24-38	0	0	0
	6/28/79	48-74	28.3	6.4	34.7
617	-	-	-	-	-
	6/28/79	40-43	24.5	31.3	55.8
618	-	-	-	-	-
	6/26/79	27-29	0	0	0
623	6/27/78	15-24	11.2	6.6	17.8
	6/29/79	18-26	82.0	6.6	88.6
625	7/15/78	43-46	0.1	0	0.1
	6/28/79	41-41	0	0	0
630	6/27/78	16-24	24.3	21.3	45.6
	6/29/79	23-33	127.9	17.7	145.6
636	7/11/78	32-40	23.5	38.5	62.0
	7/3/79	30-35	434.1	52.3	486.4
637	6/27/78	43-46	10.6	7.7	18.3
	6/29/79	47-48	8.5	24.5	33.2

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
642	7/10/78 -	27-36 -	0 -	0 -	0 -
643	7/11/78 6/30/79	50-53 52-64	21.3 30.3	45.1 19.7	66.4 50.0
644	- 6/30/79	- 68-69	- 0	- 0	- 0
650	- 7/3/79	- 44-50	- 0	- 0	- 0
651	7/11/78 6/30/79	70-73 78-80	14.3 2.0	19.4 4.0	33.7 6.0
655	7/10/78 7/4/79	54-54 51-53	0 1.3	0.2 0	0.2 1.3
656	- 7/4/79	- 57-64	- 0	- 0	- 0
661	7/9/78 7/4/79	42-45 57-60	0.6 0	0.9 0	1.5 0
662	7/10/78 -	53-86 -	0.2 -	0 -	0.2 -

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
667	7/9/78 -	34-58 -	0.7 -	1.5 -	2.2 -
668	7/10/78 7/4/79	62-68 61-72	0 0	0 0	0 0
673	7/7/78 7/6/79	26-44 32-47	0.1 0	0 0	0.1 0
674	7/9/78 -	80-94 -	1.7 -	2.1 -	3.8 -
680	7/7/78 7/6/79	74-100 80-117	1.2 0	4.6 0	5.8 0
687	7/7/78 7/6/79	40-66 38-62	0.7 0	1.0 0	1.7 0
692	6/28/78 7/5/79	31-37 30-44	3.2 1.3	4.9 0	8.1 1.3
695	6/28/78 7/5/79	31-33 27-34	1.2 4.4	0 0	1.2 4.4
696	- 7/5/79	- 56-81	- 0	- 0	- 0



Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
698	6/28/78	63-67	1.2	0.8	2.0
	8/1/79	63-68	0	0	0
700	6/29/78	38-65	10.1	17.0	27.1
	8/1/79	70-76	45.1	47.6	92.7
703	6/29/78	70-75	0.1	0.6	0.7
	8/1/79	73-80	4.2	0	4.2
705	6/29/78	74-81	0	0	0
	8/1/79	84-91	0	0	0
726	6/30/78	42-47	0	0	0
	-	-	-	-	-
728	6/30/78	30-38	0	0	0
	-	-	-	-	-
730	6/30/78	38-40	3.1	2.7	5.8
	8/2/79	37-40	29.3	18.4	47.7
733	7/2/78	25-32	6.3	2.4	8.7
	8/2/79	25-29	10.4	1.5	11.9
734	7/3/78	12-16	0	0	0
	-	-	-	-	-

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
736	7/1/78	40-47	6.1	12.3	18.4
	8/2/79	39-40	5.6	4.2	9.8
737	7/2/78	25-27	0	0	0
	8/2/79	14-23	0	0	0
738	7/1/78	125-128	0	0	0
	-	-	-	-	-
739	7/2/78	32-35	0.4	0	0.4
	8/3/79	29-31	0	0	0
740	7/3/78	19-21	0	0	0
	-	-	-	-	-
742	7/1/78	37-130	1.1	1.7	2.8
	8/3/79	35-69	5.1	10.1	15.2
743	7/4/78	32-33	2.0	0.5	2.5
	8/3/79	29-30	14.6	4.9	19.5
744	7/3/78	16-17	0	0	0
	-	-	-	-	-
747	7/4/78	38-40	10.2	10.7	20.9
	8/4/79	35-36	0	1.2	1.2

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
748	7/5/78	28-29	1.1	0.2	2.0
	8/3/79	27-27	0	1.1	1.1
751	-	-	-	-	-
	8/23/79	96-103	20.7	48.8	69.5
752	7/4/78	36-38	10.5	27.9	38.4
	8/4/79	34-35	28.2	12.1	40.3
753	7/5/78	23-26	0	0	0
	-	-	-	-	-
756	7/6/78	41-65	4.7	11.5	16.2
	8/23/79	36-38	62.9	93.8	156.7
757	7/5/78	31-35	3.7	1.2	4.9
	-	-	-	-	-
760	7/6/78	38-41	6.6	8.8	15.4
	8/4/79	39-39	32.7	29.4	62.1
764	7/6/78	66-110	5.8	19.6	25.4
	8/23/79	50-60	5.8	2.9	8.7
774	-	-	-	-	-
	8/22/79	40-47	24.6	18.5	43.1

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
783	7/22/78	36-42	4.0	2.7	6.7
	8/22/79	28-33	34.2	14.5	48.7
791	-	-	-	-	-
	8/22/79	75-91	43.1	233.3	276.4
792	7/22/78	34-34	3.2	2.4	5.6
	8/22/79	30-33	0	1.2	1.2
800	7/22/78	68-96	5.4	16.1	19.5
	8/21/79	53-77	60.2	36.5	96.7
810	7/23/78	52-80	4.5	10.6	15.1
	8/21/70	45-63	13.4	4.9	18.3
820	7/23/78	40-45	0.1	0.1	0.2
	8/21/79	41-44	1.4	0	1.4
829	7/23/78	78-124	1.0	11.5	12.5
	8/21/79	104-113	3.8	51.1	54.9
830	7/24/78	40-43	0	0	0
	8/14/79	35-47	0	0	0
832	-	-	-	-	-
	8/5/79	12-14	0	0	0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
838	7/24/78	86-92	3.7	20.9	24.6
	8/14/79	73-87	0.3	0.6	0.9
839	-	-	-	-	-
	8/14/79	21-24	0	0	0
840	7/25/78	19-26	0	0	0
	-	-	-	-	-
841	-	-	-	-	-
	8/5/79	26-30	0	1.3	1.3
847	7/24/78	47-50	2.7	1.9	4.6
	8/14/79	44-48	0.9	0.6	1.5
848	7/25/78	25-26	0	0	0
	8/13/79	20-22	0	0	0
849	-	-	-	-	-
	8/5/79	35-37	0	18.6	18.6
854	-	-	-	-	-
	8/13/79	114-126	9.0	27.4	36.4
855	-	-	-	-	-
	8/13/79	28-38	0	0	0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	> 140	Total
856	7/25/78	18-22	0	0	0
	8/5/79	13-16	0	0	0
861	-	-	-	-	-
	8/13/79	67-91	7.2	7.0	14.2
862	-	-	-	-	-
	8/11/79	24-26	0	0	0
868	-	-	-	-	-
	8/11/79	40-43	0	0	0
873	-	-	-	-	-
	8/11/79	95-114	2.1	1.4	3.6
879	-	-	-	-	-
	8/11/79	66-88	2.8	0	2.8
947	-	-	-	-	-
	8/28/79	95-117	0	1.0	1.0
950	-	-	-	-	-
	8/28/79	27-95	0	0	0
953	-	-	-	-	-
	8/28/79	48-102	1.0	0	1.0

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
956	- 8/28/79	- 59-95	- 0	- 0	- 0
961	- 8/30/79	- 101-105	- 24.4	- 4.3	- 28.7
962	- 9/1/79	- 110-123	- 14.8	- 133.9	- 148.7
963	- 8/31/79	- 96-97	- 8.5	- 28.7	- 37.2
964	- 8/30/79	- 84-117	- 0	- 0	- 0
965	- 9/1/79	- 101-107	- 14.5	- 169.3	- 183.8
966	- 8/31/79	- 90-91	- 15.1	- 31.1	- 46.2
968	- 9/1/79	- 69-143	- 49.1	- 126.4	- 175.5
970	- 8/31/79	- 92-96	- 8.9	- 7.8	- 16.7

Appendix Table 1. Kodiak (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
971	- 9/1/79	- 100-109	- 227.4	- 457.4	- 684.8
973	- 9/2/79	- 103-117	- 0.4	- 4.4	- 4.8
976	- 9/2/79	- 82-107	- 0	- 0.9	- 0.9

<sup>1</sup>Dash (-) means station not fished.



Appendix Table 2. Bay and ocean station collection and catch data for male Tanner crab (*C. bairdi*), 1978-1979 Population Index Studies, Sand Point.

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
21	- 8/13/79	- 38-54	- 0	- 0	- 0
24	- 8/13/79	- 44-45	- 0	- 4.0	- 4.0
67	8/14/78 -	42-50 -	26.0 -	79.3 -	105.3 -
69	8/15/78 -	25-30 -	0 -	0 -	0 -
70	8/14/78 -	30-44 -	1.3 -	10.3 -	11.6 -
71	8/14/78 -	36-38 -	0 -	3.0 -	3.0 -
72	8/14/78 -	37-42 -	0 -	62.0 -	62.0 -
74	8/14/78 -	20-27 -	0.3 -	0 -	0.3 -
76	8/13/78 -	38-44 -	1.3 -	36.6 -	37.9 -

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
77	8/13/78 -	37-42 -	1.6 -	28.3 -	29.9 -
84	- 8/15/79	- 34-45	- 0.6	- 1.0	- 1.6
85	8/12/78 8/15/79	53-57 32-40	2.6 0	21.3 0.3	23.9 0.3
86	- 8/15/79	- 40-45	- 0	- 0.3	- 0.3
87	8/12/78 -	57-60 -	2.6 -	40.6 -	43.2 -
89	8/12/78 8/15/79	62-66 21-30	1.5 0	16.0 0.3	17.5 0.3
90	8/12/78 8/15/79	50-50 19-36	4.6 0.3	34.6 0	39.2 0.3
91	- 8/17/79	- 18-26	- 0	- 0	- 0
93	- 8/17/79	- 21-39	- 1.3	- 3.3	- 4.6

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
94	- 8/15/79	- 20-27	- 0	- 0	- 0
95	- 8/17/79	- 44-49	- 0.3	- 12.0	- 12.3
97	- 8/15/79	- 20-23	- 0	- 0	- 0
99	- 8/17/79	- 30-48	- 0.3	- 9.6	- 9.9
100	- 8/15/79	- 15-24	- 0	- 0	- 0
101	- 8/17/79	- 47-50	- 3.6	- 26.0	- 29.6
103	- 8/17/79	- 47-49	- 1.3	- 38.0	- 39.3
106	- 8/17/79	- 56-64	- 3.6	- 41.3	- 44.9
108	- 8/17/79	- 40-57	- 1.0	- 12.0	- 13.0

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
153	8/21/78	45-48	8.0	15.0	23.0
	8/19/79	34-51	7.6	12.3	19.9
154	8/12/78	50-66	5.3	13.0	18.3
	8/18/79	45-64	0.2	2.7	2.9
156	8/21/78	38-48	4.3	12.3	16.6
	8/20/79	34-48	3.6	4.3	7.9
157	8/12/78	17-42	0	2.3	2.3
	8/19/79	44-57	3.3	13.6	16.9
159	8/21/78	29-38	5.6	2.3	7.9
	8/20/79	17-35	3.3	0.6	3.9
160	8/21/78	40-46	12.0	16.0	28.0
	8/19/79	44-46	2.3	2.3	4.6
161	8/12/78	28-31	0	0	0
	8/18/79	16-46	0	3.7	3.7
163	8/21/78	18-18	6.6	3.6	10.2
	8/20/79	16-19	17.3	0	17.3
164	8/21/78	28-35	4.3	2.6	6.9
	8/20/79	20-36	7.0	8.6	15.6

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
165	8/12/78	35-43	4.0	15.3	19.3
	8/19/79	33-47	4.6	8.0	12.6
166	8/21/78	10-12	2.3	0	2.3
	8/20/79	11-11	0	0	0
167	8/21/78	18-27	4.0	4.6	8.6
	8/20/79	16-33	0.3	0.3	0.6
168	8/21/78	25-37	16.0	10.3	26.3
	8/19/79	34-37	0.6	1.3	1.9
169	8/12/78	37-48	2.3	11.6	13.9
	8/19/79	36-44	0.6	2.0	2.6
171	8/21/78	17-18	4.3	1.3	5.6
	8/20/79	16-18	4.0	0	4.0
172	-	-	-	-	-
	8/19/79	19-20	0	0.5	0.5
173	-	-	-	-	-
	8/19/79	15-33	6.3	6.3	12.6
174	-	-	-	-	-
	8/20/79	16-16	13.0	0	13.0

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
187	- 8/23/79	- 9-12	- 0	- 0	- 0
188	- 8/23/79	- 14-20	- 0	- 0	- 0
190	8/22/78 8/23/79	60-62 50-61	9.3 2.8	19.0 10.1	28.3 12.9
192	8/22/78 8/23/79	48-65 64-71	0 .3	0 1.6	0 1.9
193	8/22/78 8/22/79	35-37 39-41	2.6 0	20.0 0	22.6 0
194	- 8/23/79	- 61-65	- 1.0	- 1.6	- 2.6
196	- 8/23/79	- 37-42	- 0	- 0	- 0
197	8/22/78 -	23-26 -	1.6 -	0 -	1.6 -
198	8/22/78 8/22/79	45-50 36-49	0 0	0 0	0 0

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	> 140	Total
201	- 8/24/79	- 20-22	- 0	- 0	- 0
203	8/22/78	26-27	0	0	0
	8/24/79	22-27	0	0	0
204	8/22/78	26-32	0	0	0
	8/24/79	23-36	0.6	0	0.6
209	8/22/78	46-57	0.6	0.3	0.9
	8/24/79	45-57	0.3	0	0.3
210	- 8/24/79	- 44-60	- 0	- 0	- 0
213	8/22/78	67-72	0.3	3.3	3.6
	8/24/79	67-72	3.3	4.0	7.3
216	- 8/24/79	- 63-69	- 3.6	- 2.3	- 5.9
221	- 8/24/79	- 70-72	- 5.5	- 3.5	- 9.0
223	- 8/25/79	- 56-68	- 0	- 0.3	- 0.3

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
224	- 8/25/79	- 35-37	- 0	- 0	- 0
227	- 8/25/79	- 60-64	- 0.3	- 0	- 0.3
230	- 8/25/79	- 63-94	- 0.6	- 1.3	- 1.9
231	- 8/25/79	- 39-49	- 0	- 0	- 0
234	- 8/25/79	- 52-68	- 0	- 0	- 0
239	- 8/25/79	- 26-64	- 0	- 0	- 0
243	- 8/25/79	- 66-83	- 3.3	- 2.6	- 5.9
404	8/18/78 -	52-53 -	0.1 -	0 -	0.1 -
412	8/18/78 -	40-52 -	0 -	0 -	0 -
419	8/18/78 -	40-44 -	0 -	0 -	0 -



Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
442	8/17/78 -	47-57 -	3.6 -	20.7 -	24.3 -
451	8/17/78 -	60-60 -	1.8 -	30.2 -	32.0 -
458	8/17/78 -	51-57 -	19.4 -	21.8 -	41.2 -
460	8/17/78 -	44-56 -	3.5 -	10.5 -	14.0 -
465	8/16/78 -	47-58 -	5.4 -	7.0 -	12.4 -
473	8/16/78 -	30-45 -	0 -	0.2 -	0.2 -
496	- 8/13/79	- 34-68	- 2.6	- 18.7	- 21.3
497	- 8/13/79	- 28-45	- 0.5	- 4.1	- 4.6
507	8/16/78 -	42-50 -	4.3 -	13.1 -	17.4 -

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
516	8/16/78	45-58	1.9	22.7	24.6
	8/12/79	40-57	0.5	4.3	4.8
517	-	-	-	-	-
	8/12/79	40-71	0	0.1	0.1
525	8/15/78	46-81	7.2	34.8	42.0
	8/12/79	55-78	3.1	19.1	22.2
526	-	-	-	-	-
	8/11/79	27-74	.7	1.6	2.3
527	-	-	-	-	-
	8/11/79	47-85	15.5	14.1	29.6
534	-	-	-	-	-
	8/11/79	78-79	15.1	16.2	31.3
547	8/14/78	24-52	1.9	18.9	20.8
	8/14/79	30-52	0.2	3.4	3.6
548	-	-	-	-	-
	8/14/79	24-44	0.8	2.0	2.8
557	-	-	-	-	-
	8/14/79	22-39	0	0.1	0.1

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
577	8/11/78	50-58	1.7	17.3	19.0
	8/18/79	51-58	1.2	17.4	18.6
587	8/11/78	54-63	4.0	29.1	33.1
	8/18/79	48-57	2.2	25.5	27.7
599	8/11/78	18-30	0.3	9.3	9.6
	8/21/79	18-28	0	0.8	0.8
610	8/10/78	27-31	8.6	11.7	20.3
	8/21/79	28-29	5.0	5.0	10.0
622	8/10/78	23-42	8.6	11.7	20.3
	8/21/79	32-37	2.4	3.2	5.6
633	8/10/78	16-28	0.1	0	0.1
	8/21/79	16-30	0	0	0
635	8/9/78	47-72	0	0.9	0.9
	-	-	-	-	-
636	8/9/78	53-64	0	0.6	0.6
	-	-	-	-	-
644	8/9/78	30-40	0	0	0
	-	-	-	-	-

Appendix Table 2. Sand Point (continued)

Station	Date Gear picked <sup>1</sup>	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
670	8/8/78 -	38-101 -	0.6 -	14.6 -	15.2 -
671	8/8/78 -	40-122 -	0.2 -	0 -	0.2 -
682	8/8/78 -	29-112 -	0.2 -	0 -	0.2 -
897	- 7/19/79	- 46-58	- 0.1	- 0	- 0.1
898	- 7/19/79	- 58-69	- 0	- 0	- 0
992	- 7/21/79	- 51-57	- 0	- 0	- 0
993	- 7/21/79	- 39-61	- 2.6	- 0	- 2.6

<sup>1</sup> Dash (-) means station not fished.

Appendix Table 3. Bay and ocean station collection and catch data for male Tanner crab (*C. bairdi*), 1979 Population Index Study, Dutch Harbor.

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		Total
			< 140	≥ 140	
33	7/4/79	43-46	0	0	0
34	7/4/79	64-75	0	0	0
35	7/4/79	15-21	0	0	0
36	7/4/79	18-81	0	0	0
37	7/4/79	41-67	10.6	42.6	53.2
40	7/4/79	23-36	11.0	28.0	39.0
44	7/5/79	21-38	0	0	0
45	7/5/79	25-38	2.0	0.6	2.6
46	7/5/79	17-41	4.3	1.6	5.9
47	7/6/79	27-39	0	0	0
49	7/5/79	45-49	18.3	1.6	19.9
52	7/5/79	51-53	6.3	30.6	36.9

Appendix Table 3. Dutch Harbor (continued)

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
58	7/5/79	42-61	14.3	40.3	54.6
59	7/5/79	40-46	25.3	6.6	31.9
61	7/5/79	42-42	17.6	3.0	20.6
62	7/5/79	18-46	18.6	7.3	25.9
63	7/5/79	38-40	25.3	8.3	33.6
79	7/24/79	42-63	0	0	0
80	7/24/79	16-48	4.3	3.3	7.6
82	7/24/79	9-20	0.3	0	0.3
83	7/25/79	36-49	0	0	0
85	7/25/79	41-58	0.3	0	0.3
87	7/25/79	64-82	0	0	0

Appendix Table 3. Dutch Harbor (continued)

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
88	7/25/79	32-59	9.6	1.0	10.6
89	7/25/79	66-90	1.6	25.0	26.6
91	7/25/79	101-109	0	0	0
92	7/25/79	60-71	0	0	0
94	7/25/79	56-113	0	1.3	1.3
96	7/25/79	37-67	0	0	0
100	7/25/79	51-93	0.3	1.6	1.9
229	7/23/79	28-37	5.0	1.3	6.3
230	7/23/79	36-43	0	0	0
231	7/18/79	53-61	16.3	11.6	27.9
232	7/18/79	40-61	4.6	3.6	8.2

Appendix Table 3. Dutch Harbor (continued)

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
234	7/18/79	24-50	9.6	3.6	13.2
235	7/18/79	26-51	7.3	2.0	9.3
237	7/18/79	96-106	9.0	5.6	14.6
238	7/18/79	63-135	4.6	12.6	17.2
240	7/18/79	28-68	20.3	15.3	35.6
242	7/17/79	135-142	0	6.6	6.6
243	7/17/79	89-160	0.3	12.0	12.3
247	7/17/79	41-75	0	0	0
248	7/17/79	132-154	1.0	7.6	8.6
249	7/17/79	60-70	0.6	0.3	0.9
251	7/17/79	126-138	0.3	12.6	12.9
252	7/17/79	68-112	0	0	0



Appendix Table 3. Dutch Harbor (continued)

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
253	7/17/79	28-76	2.3	0.6	2.9
254	7/17/79	146-152	0	0	0
255	7/16/79	72-79	0	0	0
257	7/23/79	40-49	0	0	0
258	7/16/79	86-87	0	0	0
259	7/23/79	35-61	0	0	0
260	7/23/79	38-55	0	0	0
261	7/16/79	85-89	0	0	0
278	7/16/79	85-95	0	0	0
283	7/16/79	64-78	0	0	0
285	7/16/79	45-62	0	0	0

Appendix Table 3. Dutch Harbor (continued)

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
287	7/16/79	75-92	0	0	0
293	7/16/79	37-51	0	0	0
295	7/16/79	49-54	0	0	0
298	7/16/79	43-46	0	0	0
308	7/14/79	30-33	0	0	0
309	7/14/79	34-37	0	0	0
310	7/14/79	28-34	0	0	0
311	7/14/79	25-29	0	0	0
312	7/14/79	30-33	0	0	0
351	7/4/79	22-55	0	0	0
618	7/3/79	71-87	0	0	0
619	7/3/79	54-70	0	0	0

Appendix Table 3. Dutch Harbor (continued)

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
624	7/2/79	85-96	1.0	4.5	5.5
625	7/3/79	48-91	0	0	0
626	7/4/79	34-62	0	0	0
629	7/2/79	68-84	0	0	0
630	7/2/79	45-90	0	0	0
639	7/6/79	48-54	0	0	0
643	7/6/79	51-60	0	0	0
644	7/6/79	55-205	0	0	0
646	7/24/79	51-87	0	0	0
647	7/24/79	40-43	0	0	0
826	7/13/79	45-53	0	0	0
827	7/13/79	53-57	0	0	0

Appendix Table 3. Dutch Harbor (continued)

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
828	7/11/79	95-105	0	0	0
831	7/13/79	53-58	0	0	0
832	7/11/79	62-69	0	0	0
833	7/11/79	101-127	0	0	0
834	7/14/79	41-48	0.2	0	0.2
835	7/10/79	50-53	0.1	0	0.1
836	7/10/79	53-78	0	0	0
838	7/14/79	45-52	0	0	0
839	7/10/79	44-53	0	0	0
840	7/8/79	48-60	0	0	0
842	7/15/79	34-62	0	0	0
843	7/15/79	37-45	0	0	0

Appendix Table 3. Dutch Harbor (continued)

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
844	7/8/79	44-46	0	0	0
845	7/8/79	47-65	0	0	0
846	7/7/79	61-72	0	0	0
847	7/15/79	37-43	0	0	0
848	7/9/79	43-71	0	0	0
849	7/9/79	68-70	0	0	0
850	7/7/79	49-51	0	0	0
851	7/7/79	71-77	0	0	0
852	7/9/79	40-63	0.6	0	0.6
994	7/20/79	51-53	0	0	0
995	7/20/79	54-57	0	0.1	0.1
996	7/20/79	46-55	0	0	0

Appendix Table 3. Dutch Harbor (continued)

Station	Date Gear picked	Depth Range (fms)	Average catch per pot		
			< 140	≥ 140	Total
997	7/20/79	55-58	0	0	0
998	7/19/79	32-56	0	0	0
999	7/19/79	54-57	0	0	0

Because the Alaska Department of Fish and Game receives federal funding, all of its public programs and activities are operated free from discrimination on the basis of race, color, national origin, age, or handicap. Any person who believes he or she has been discriminated against should write to:

O.E.O.  
U.S. Department of the Interior  
Washington, D.C. 20240